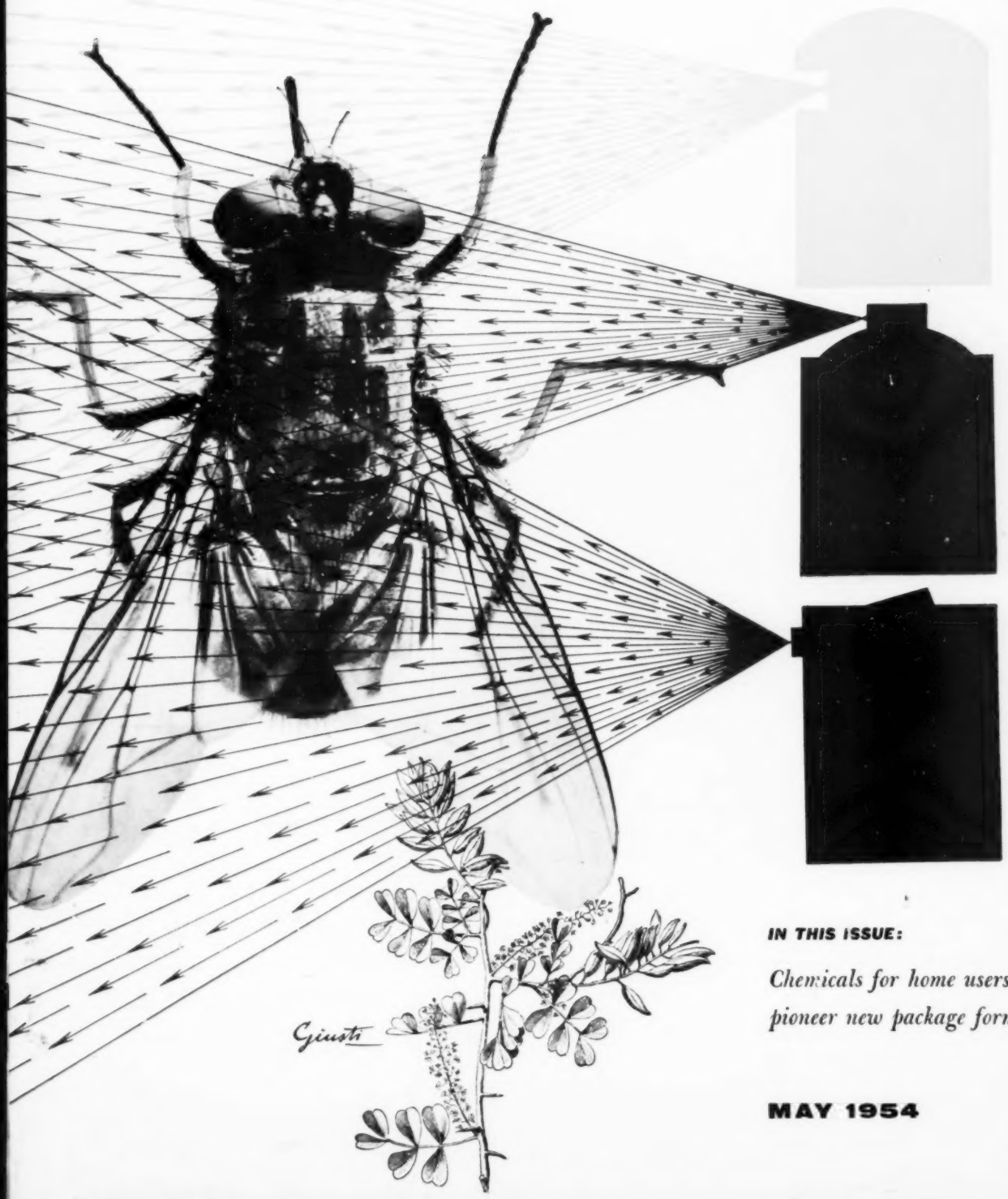
MODERN PACKAGING



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Chemicals for home users pioneer new package forms

MAY 1954

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with faster setting adhesives

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PAPERBOARD

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MODERN PACKAGING*

May 1954, Vol. 27, No. 9

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another REDINGTON MACHINE
HIGH SPOT
in AUTOMATIC PACKAGING

HAVE YOU A MULTIPLE-INSERT CARTONING JOB?

In packaging pharmaceutical preparations and numerous other articles, it is not unusual to include one or more items besides the product itself in the carton.

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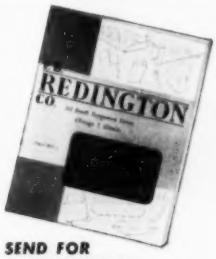

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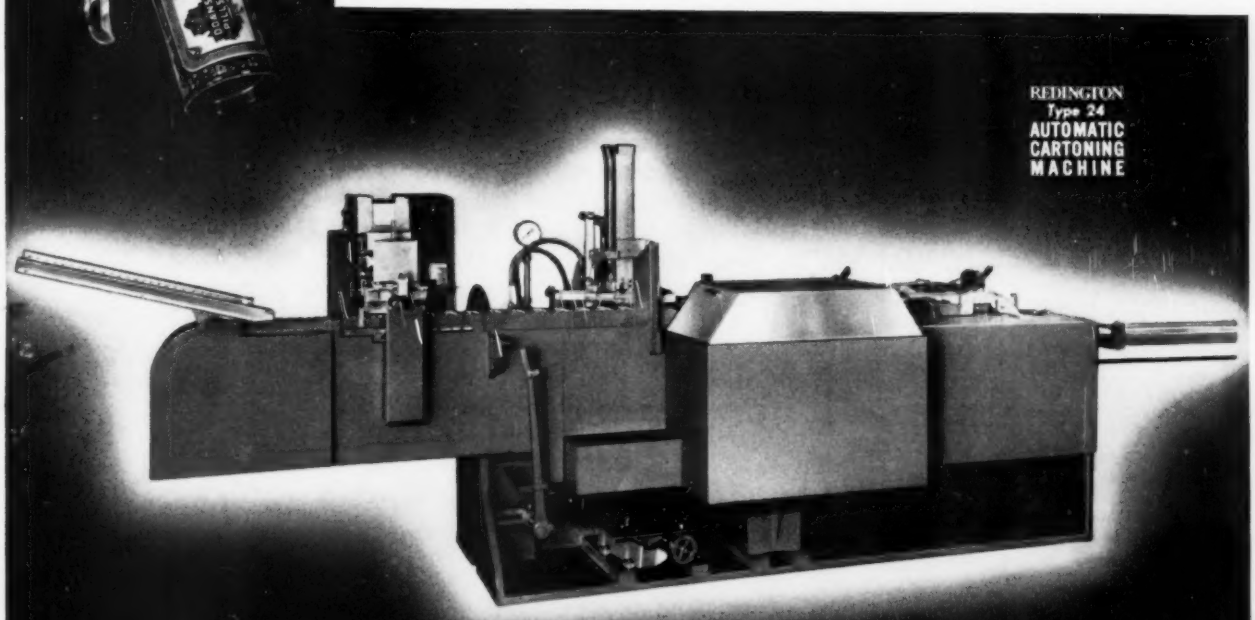

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MODERN PACKAGING is regularly indexed in *Industrial Arts Index*.

How big is too big?

THE PENALTY OF SUCCESS is criticism and the danger in anything that grows very big very rapidly is that it may get out of control.

Having just concluded the biggest and most successful industrial show ever staged in America's biggest exhibition hall, the sponsors of the National Packaging Exposition are feeling the points of both these axioms.

We've never talked with happier exhibitors than those who showed their wares at Atlantic City last month, nor with show-goers more uniformly convinced that the trip was both necessary and fruitful. Never before had so many of the requirements of packaging been assembled for brilliant display under a single roof and never before had so many people crowded into this hall to see and study industrial products.

Yet the general satisfaction was mixed with remarks that the show was getting "too big," that too many idle souvenir hunters were crowding the aisles and booths, and that individuals booths were lost in the welter of color and activity.

The management and the exhibitors themselves, we're happy to say, moved quickly to meet some of these criticisms. Admittance rules were promptly tightened to screen out the local housewives and school children, who were all too apparent the first day. And most commendable, we think, was the action of the Exhibitors Advisory Committee in deciding that next year there will be no give-aways in the booths and definitely no distribution of shopping bags or boxes to encourage the collection of souvenirs. That should go a long way toward removing the carnival air.

We do think the show could be kept a bit more to the point by excluding exhibits that are not specially and particularly concerned with packaging. The materials handlers have their own show and it is a subject we think best considered apart from packaging. But aside from that, the "too big" complaint is one we cannot consider valid. The packager who makes an annual pilgrimage to the show wants to see everything under the sun that is directly applicable to his job; it just can't be "too big" as long as it stays channeled on that beam.

The Editors

Not just pretty good, kiddo... *terrific* is the word for Gerber's exciting new sampling program. It's a family of four miniature packages, all using Gerber's familiar package design. Colorful envelopes of polyethylene coated paper by Dobeckmun combine the kind of brand identification and sales appeal that give Gerber's a flying headstart at the point of sale. For better packaging ideas... bigger sales... get in touch with us today.

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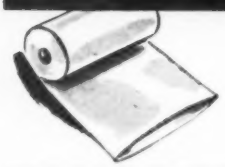
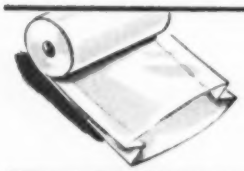
TREATED POLYETHYLENE FILM

CHESTER

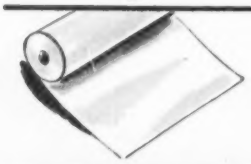
Available to selected converters in



Flat Tubing



Gusseted Tubing



Sheeting

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THE BEST INK ADHESION to polyethylene film is obtained by users of CHESLENE TF. This exclusive, surface-treated film gives printing a longer lease on life. Packages retain impression, brilliance of color and clarity even after rough travel and long shelf time. Press runs are *trouble-free!*

UNIFORMITY GUARANTEES YIELD—CHESLENE'S uniformity sets a standard for the film industry. Full yield—pound for pound—meets specifications, guarantees maximum package output and safeguards costs.

EXTREMELY WORKABLE—manually or mechanically, users find CHESLENE film unexcelled in properties demanded in the *toughest* of packaging applications.

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B. F. Goodrich Chemical Co. does not manufacture these cotton picking bags. We supply the Geon paste resin only.

Cotton picking bag has wonderful drag

COTTON picking bags have a short life as you will see why. When full they hold 65 pounds of cotton, and as the picker drags it over stone and earth the wear is extreme—and costly.

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You may find an idea in this success story that can help you improve or develop more saleable products. For Geon-based plastisols and other Geon materials have helped build sales for many necessities—such as wire insulation, durable flooring, colorful upholstery, rigid paneling and tubing and many more.

Check with us; we'll help you select the Geon material best suited to your product's requirements. For technical information, please write Dept. GL-5, B. F. Goodrich Chemical Company, Rose Building, Cleveland 15, Ohio. Cable address: Goodchemco. In Canada: Kitchener, Ontario.

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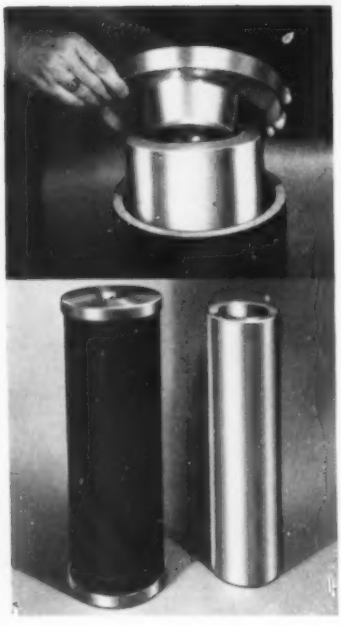

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Organized by five men, whose practical rotogravure experience totals 90 years, this new corporation is now ready to serve you efficiently and fast.

Available immediately are the following services: (1) ALUMINUM, steel and cast iron (shafted or unshafted) bases for gravure cylinders; (2) copper plating and polishing; (3) complete repair and rechrome service on engraved cylinders; (4) containers for rubber plate cylinders; (5) design and fabrication of special equipment for the gravure industry.

Left: Pictured is the new aluminum cylinder base (patent pending) and the new ROTEC shipping container (patent pending), especially designed for light weight aluminum and rubber plate cylinders. The ROTEC container suspends the cylinder so cylinder surface never touches container. Cylinders in the ROTEC container may be stored upright, saving considerable storage space. Shipping costs in the ROTEC container, particularly by air, are far more economical.

For further information—phone, wire or write!

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help put over a
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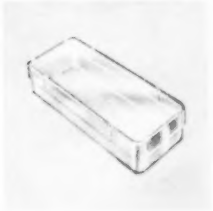
Tri-State
Rigid Plastic Box No. 05, 2"x 5"x 1", is just one of a huge variety of stock sizes and shapes that will fit your product—or we will mold to your specifications.



THIS ingenious display tree dreamed up by The Crown Company of Chicago provided the ship-show-and-sell answers to the merchandising of its novel self-forming clip bow. And the tree trim provided by Tri-State is the individual "showcases" that sell the bows on sight!

In addition to keeping the bows bandbox-fresh, en route or on the counter, these crystal-clear boxes pack an extra selling premium. They're re-usable for studs, cuff links, fishing flies, what-not! Tie-ups like these are a specialty of Tri-State. As molders of the *world's greatest assortment of rigid plastics*, we can provide the bonus package that will put *your* show on the road to increased sales!

The best Rigid Plastic Boxes are Injection Molded by

TRI-STATE PLASTIC MOLDING CO., Inc.
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More Swarms of Buyers Follow This New Bee-Line

...to protected quality!

Buyers have always been drawn like bees to Schutter's "BIT-O-HONEY." And right from the start they went for the handy, economical "6-bar Special." All eyes are caught by the yellow-bannered name standing out against that richly glowing red. Many recognize the gleam as aluminum. And they all know—as repeat purchases prove—that they can depend on "BIT-O-HONEY" quality!

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This Seal is now boosting sales for many kinds of packaged products. It dramatizes the world's best protective package by the name that means aluminum foil to most shoppers... Reynolds Wrap. See what Reynolds Wrap Aluminum Packaging—and the Seal—can do for your product. Call any Reynolds Sales Office or write to **Reynolds Metals Company,** General Sales Office, Louisville 1, Kentucky.

SEE "MISTER PEEPERS," starring Wally Cox, Sundays, NBC-TV Network.

BIG AD CAMPAIGN MAKES SHOPPERS LOOK FOR THE SEAL!

Consistent, powerful TV and magazine advertising promotes today's most positive assurance of protected quality. See the current four-color, full-page ad . . . fourth of the series, featuring Cookies . . . in May Good Housekeeping, Household, and McCall's.

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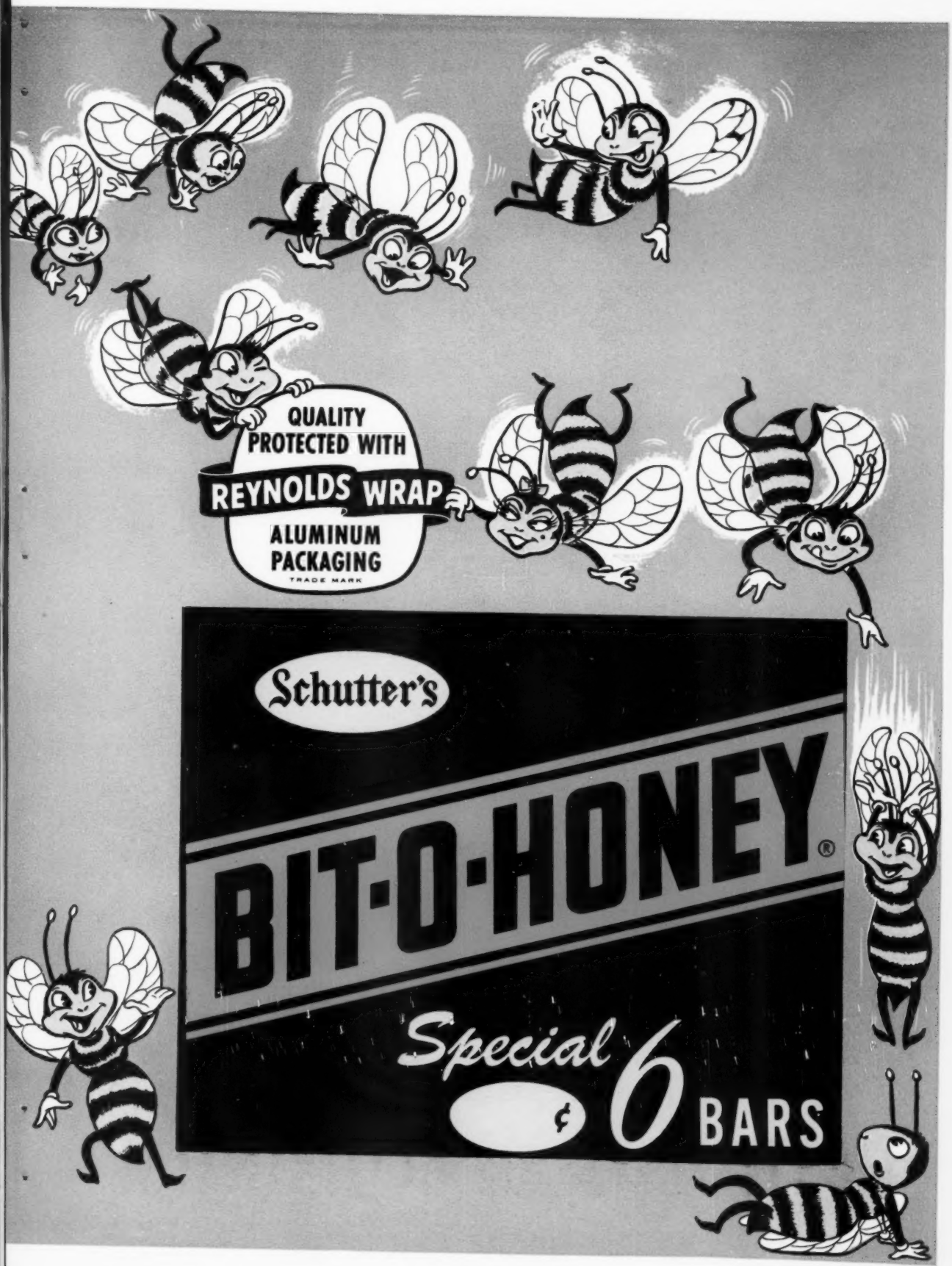
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ON EVERY ORDER

Over 40 years specialized experience in producing the finest quality, most beautiful metal containers are at your command when you buy from us. Every order receives expert personal attention and is planned to give you the best value obtainable. Deliveries are scheduled to furnish *what* you want, *when* you want it. And the cost is often less than you might expect. That's why so many leading specialty food packers use our services.

SUPERIOR DESIGN—*Artistic subjects or modern package designs produced by experts.*

FINEST METAL LITHOGRAPHY—*Rich, glowing colors, baked on finishes. The most beautiful packaging medium.*

Precision production with specialized equipment.

Give Customers an *Added Reason* for Buying *Your* Products!

If you pack candy, confections, fruit cake, cookies, dried fruit or any similar product, we can show you how to stimulate sales with our decorated metal containers, designed to fit your needs. Beautiful stock designs, including seasonal, holiday and floral designs are available in various sizes.

Orders are processed on individual production lines or with automatic equipment.

Let us have your inquiry

OLIVE CAN COMPANY

DESIGNERS AND MANUFACTURERS
PLAIN AND LITHOGRAPHED
METAL CONTAINERS
CUSTOM OR STOCK DESIGNS

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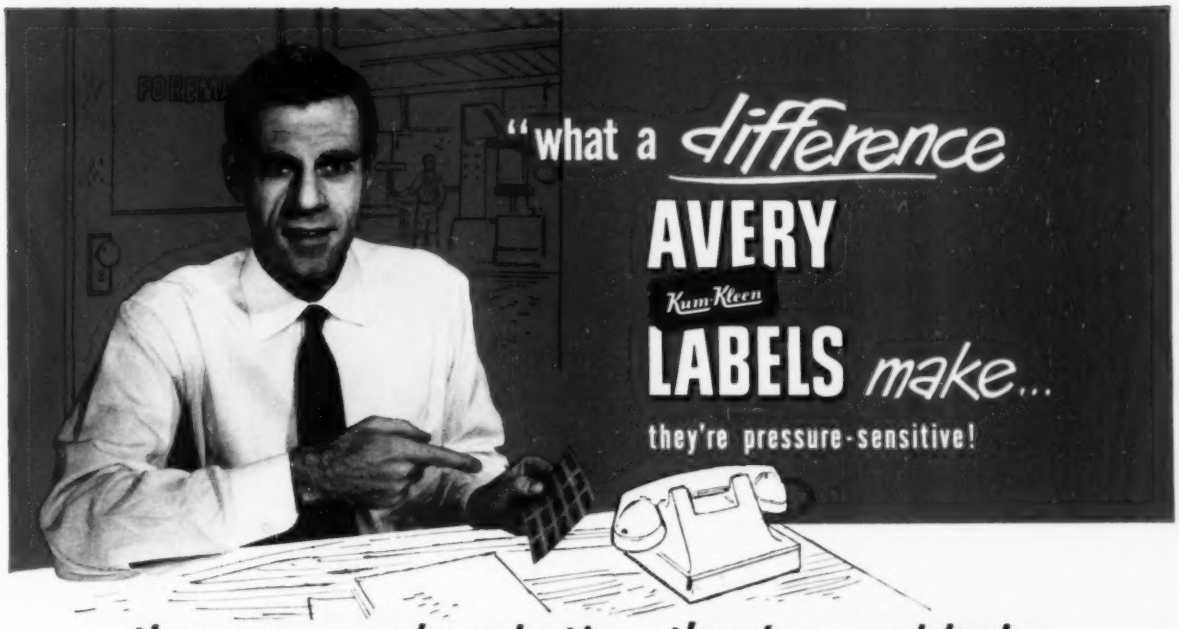

"what a *difference* AVERY Kum-Kleen LABELS *make*...

they're pressure-sensitive!

they sure speed production...there's no moistening —no waste motion!"

Consider these practical labeling advantages!

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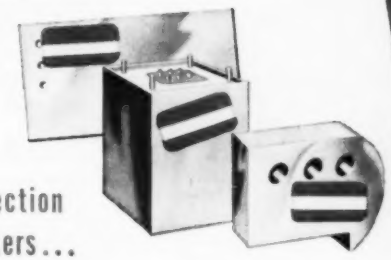
- *They stick, and stay stuck*—Avery Kum-Kleen Labels stick to any clean, smooth surface—*right now*—and will not curl, peel or pop off! That's why Avery Kum-Kleen *Pressure-Sensitive* Labeling is different...it's practical and economical. Write now for details—free sample labels—case histories!

SPECIFICALLY SPEAKING...



inspection stickers...

An ideal application...removable, Kum-Kleen Inspection Stickers provide a quick, positive means of designating whether an item is accepted, rejected, to be reworked or scrapped. Avery Kum-Kleen Labels are faster, safer and more efficient than chalk, grease pencil or gummed labels...they're quickly applied *without moistening*—and stick tight to all clean, smooth surfaces. They never curl or pop off—yet they're easily peeled off (without leaving a mark) when the job is done!

AVERY ADHESIVE LABEL CORP., Custom Div. 127

117 Liberty Street, New York 6 • 608 S. Dearborn Street, Chicago 5
1616 S. California Ave., Monrovia, Calif. • Offices in other principal cities

☐ Please send case histories and free samples ☐ Have the Avery Label man call

*Name*_____

*Company*_____

*Address*_____

*Our Business Is*_____

Decitron

. . . INDUSTRY'S MOST RELIABLE ELECTRONIC COUNTER

Model D1
Counts up to 20 units per second; Other models up to 5000 UPS.

Model P2
Counts in any desired total 1-100. Other models 1-1,000,000

Model D2144
Double Decitron with 12 place tubes, counts gross lots as one unit on totalizer.

Model P4W
Desired counts by units 1-10,000 and wired-in warning system.

New, highly perfected Decitron electronic counters cover every counting need . . . from pills to case lots — in any quantity — at amazing speeds (up to 6000 units per second.)

Preset counters afford desired total counts i.e. dozens, fiftys, gross lots, etc. Lineal footage counters totalize production of paper, cloth, etc. Warning systems and other circuits can be energized by these counters if desired.

Write today — we want your counting problem.

POST

ELECTRONIC PRODUCTS DIVISION
POST MACHINERY COMPANY
Beverly, Massachusetts

New—wonder-working windows —remain wrinkle-free

If you package your product in a window carton or bag for greater sales appeal, consider these two important advantages of PLIOFILM:

1. *Its unusual dimensional stability.* PLIOFILM is impervious to moisture, won't shrink or stretch. Result: clear and lasting transparency, without a trace of sag or wrinkle.

2. *Its punctureproofness.* PLIOFILM is tough and tear-resistant, won't shatter or run. Takes rough handling on self-service counters without danger of breakage.

In addition, PLIOFILM is greaseproof. It wraps products like bacon or pork without smearing. PLIOFILM is economical to use, too. No other film yields as much protection per pound. You can get all the facts—and all the help you need in designing a package – from the Goodyear Packaging Engineer. Write him at Goodyear, Pliofilm Dept. Q-6418, Akron 16, Ohio.

GOODYEAR PACKAGING FILM

Good things are better in Pliofilm

3-way protection against air, moisture, liquids

Pliofilm, a rubber hydrochloride—T. M. The Goodyear Tire & Rubber Company, Akron, Ohio

We think you'll like "THE GREATEST STORY EVER TOLD"—every Sunday—ABC Radio Network—THE GOODYEAR TELEVISION PLAYHOUSE—every other Sunday—NBC TV Network

show off your pen and pencil sets with

CROMPTON Velvet or Velveteen

Crompton Velvet or Velveteen are your most effective salesmen in selling your pen and pencil sets. These fabrics dramatize your product by setting them off in a natural, permanent showcase... attracting the buying eye immediately. Crompton Velvet or Velveteen are unusually luxurious fabrics... lend a note of elegance to your product with the flattery of their soft, glowing color. Aside from its immediate packaging purpose, your box can serve as a miniature treasure chest for trinkets and jewelry ... a traveler's carry-all for odds and ends. With your trade name permanently inscribed on its magnificent surface, your box will continue to do an advertising job for your product.

ASK YOUR PACKAGING SUPPLIER FOR IDEAS RELATING TO VELVET OR VELVETEEN LINED OR COVERED CONTAINERS

Crompton-Richmond Co., Inc.

THE PIONEER OF AMERICAN CORDUROY & VELVETEEN—EST. 1807

1071 AVENUE OF THE AMERICAS, NEW YORK 18, N. Y.

Flexible bottles that firm up sales

Does your package have *all three* of the sales features combined in these squeeze bottles made from BAKELITE Polyethylene? Is it attractive, functional, safe for product and user?

Bottles are being molded of BAKELITE Polyethylene to every interesting shape and any practical size. They may be translucent, or opaque. Their surfaces can be glossy or satiny, or molded with interesting effects such as stippling or cross-hatching. Label designs and lettering can be printed or molded on them. Any desired color is available.

Dispensing contents is another important feature of these bottles. Gentle pressure produces a fine mist or a drop. There's no spill, no mess. And contents stay fresh—protected until used.

If you drop a bottle molded from BAKELITE Polyethylene, it won't break. It stays flexible and fresh-looking—resists aging. BAKELITE Polyethylene is highly inert—most acids and alkalies won't affect it. In fact, huge 13-gallon carboys molded from BAKELITE Polyethylene are used to hold corrosive chemicals. In addition, their light weight reduces transportation costs and makes handling easier.

Today, take an important step toward redesigning your packaging to meet the changing needs of these times. Write Dept. UH-30 for names of suppliers of bottles and packaging materials fabricated from BAKELITE Polyethylene.

BAKELITE
TRADE-MARK
Polyethylene
TRADE MARK

BAKELITE COMPANY
A Division of
Union Carbide and Carbon Corporation
UCC
30 East 42nd Street, New York 17, N. Y.
In Canada: Bakelite Company
Division of Union Carbide Canada Limited
Belleville, Ontario

This is what I call real french dressing!

DAD *is a man who has definite opinions about everything. When it comes to seasoning for salads he has made up his mind that Mrs. Filbert's French Dressing can't be matched. He has plenty of company on that decision, too.*

Boy... I'm gonna make lots of good things!

CROWN CLOSURES are used to seal these Mrs. Filbert's products. They are the caps and liners that are scientifically selected for each individual product. Packers who use Crown Closures, and there are more and more each year, can be certain that their products have the finest sealing protection available.

Ask your Crown Closure Representative for complete information about Crown Screw Caps and other closures. Crown Cork & Seal Company, Inc., *Closure Division,* Baltimore 3, Md.

SONNY *knows from experience that Mrs. Filbert's Beverage Syrups are swell for making milk shakes, snowballs, sundaes, iced tea and many other things. He and the rest of the gang have tried every one of the six delicious flavors, too.*

*Mrs. Filbert's French Dressing and Beverage Syrup are two of the many products packed by J. H. Filbert, Inc., Baltimore, Md.

CROWN CLOSURES

Approved by millions of housewives

FOR ALL-AROUND DEPENDABILITY

. . . for sturdy construction . . . for trim appearance . . . for product protection

J&L STEEL CONTAINERS ARE ALL-AROUND WINNERS

There are sound basic reasons for the all-around dependability of J&L Steel Drums and Pails:

1. **J&L Drums and Pails are made from high quality J&L Steel Sheet.**
2. **J&L Drums and Pails are made with care and accuracy in every detail.**

You can obtain J&L Steel Drums and Pails through plants located in leading industrial centers. You'll find J&L service fast and efficient.

The J&L line includes all types of Closures and Finishes. Bright, colorful decorations may be reproduced to your specifications. Heavy-duty ICC Drums. Light-gauge Drums. 55, 30 and 15 gal. capacity and 100-lb. Grease Drums. Lightweight Drums for Chemical and Powdered Materials. 1-10 gal. capacity Steel Pails for Foods, Chemicals, Oils.

Jones & Laughlin

STEEL CORPORATION — *Pittsburgh*

CONTAINER DIVISION

405 Lexington Avenue, New York 17, New York

MAKE THIS "ONE SWEEP" TEST YOURSELF!

See how BLUE RIBBON Gummed Tape Seals Faster . . . the first time down!

Stop-action photo proves Blue Ribbon seals with just one fast sweep of your packer's hands. Tests show an 18" carton center-strip is perma-sealed in 1.4 seconds. Proof positive of Blue Ribbon's instant action.

Try this test yourself. We'll guarantee Blue Ribbon Super Standard sealing tape will close cartons and packages as fast as your operator's hands can move . . . and they are perma-sealed, ready to take the toughest stresses of all-condition shipping.

Figure the increased production you will get with a tape that goes down faster—users* report as much as 25% greater output . . . stays down to last—with no rerubbing or re-sealing. Figure the savings you'll make, too.

You count on *consistent good quality with Blue Ribbon . . . insured by 'pines to paper' control of the world's finest kraft . . . you get the same fine tape as you did on your last order—your next order—or a hundred orders after that!*

*Names on Request

ANOTHER PRODUCT BY **Hudson**

Blue Ribbon Super Standard Gummed Tape is another Hudson Quality Product . . . a member of the renowned family of Hudson Paper Napkins, Tissues, Towels, Orange Core Gummed Tape, Kraft Wrapping Papers, Grocery and Heavy Duty Bags, Multiwall Sacks and Laminated Wrapping Papers.

Super Standard Tape | Napkins | Gummed Tape | Kraft Wrapping Paper | Grocery Bags | Multiwall Sacks

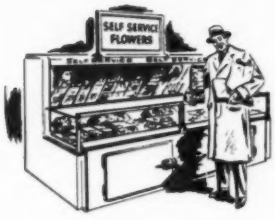
P.S.

Prove it yourself! Send us your name on your company letterhead. We'll give you a free trial roll of Blue Ribbon tape, and a copy of *"How To Cut Costs In Your Shipping Room."*

HUDSON PULP & PAPER CORP.

Dept. M.P. 5-A, 477 Madison Avenue
New York 22, N. Y.

Flowers for her . . . and a new idea for him!



With the help of Sylvania Cellophane, pre-packaging is changing the complexion of the cut flower industry. Remember, only cellophane gives your product protection plus eye appeal, at a budget price.

Who would expect to find flowers in a supermarket! But there they were—bright, fragrant flowers, beautifully pre-packaged in sparkling cellophane. Why? Because moisture-controlling cellophane keeps them fresh and displays them at their peak af attractiveness. Just begging to be bought. Perhaps this gives you a new packaging idea, too. Talk to a Sylvania man today. Sylvania Division, American Viscose Corporation, 1617 Pennsylvania Boulevard, Philadelphia 3, Pa.

AMERICAN VISCOSE CORPORATION

AVISCO YARNS AND FIBERS : SYLVANIA CELLOPHANE

SYLVANIA CELLOPHANE

COLTON

THE WORLD'S MOST COMPLETE LINE OF FILLING EQUIPMENT

NO. 130 HAND OPERATED TUBE FILLER FOR PASTES AND CREAMS.

NO. 150 GEAR TYPE TUBE FILLER FOR PASTES AND CREAMS.

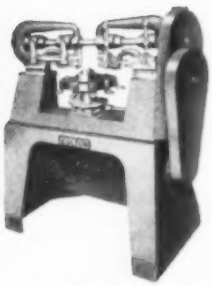
NO. 140 WORM TYPE TUBE FILLERS FOR PASTES AND CREAMS.

NO. 110 WORM TYPE FILLER FOR LARGER TUBES OR JARS.

NO. 450 HAND OPERATED TUBE CLOSER FOR CLIPLESS CLOSURE.

NO. 430 TUBE CRIMPER, FOOT OPERATED.

ONLY COLTON OFFERS A RANGE OF MACHINES COVERING EVERY MATERIAL FILLING REQUIREMENT, FROM LIQUIDS TO HEAVY ABRASIVE PASTES



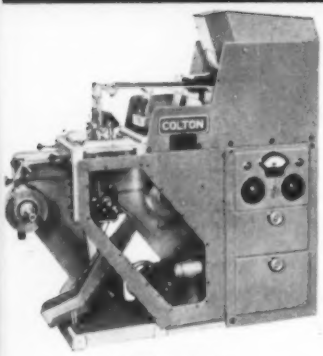
NO. 420 TUBE CLOSER AND CRIMPER, POWER OPERATED.

NO. 104 MULTIPLE LIQUID FILLER WITH FOUR, SIX OR EIGHT NOZZLES.

NO. 107 LIQUID FILLER — BENCH TYPE, FOR CANS, BOTTLES, JARS, ETC

NO. 103 FILLER, CLOSER AND CRIMPER, FOR TUBES OR BOTTLES.

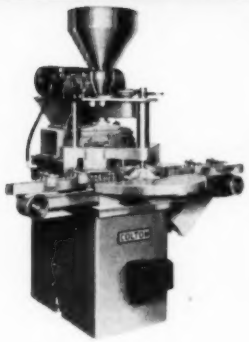
COLTON'S BRILLIANT NEW LINE INCLUDES THE RIGHT MACHINE FOR SPEED AND ECONOMY ON EVERY FILLING JOB



COLTON STRIP PACKAGING MACHINE

NO. 175 TUBE FILLER AND CLOSER, AUTOMATIC, SINGLE OR TWIN.

NO. 180 TUBE FILLER AND CLOSER, AUTOMATIC, SINGLE OR TWIN.



NO. 126 MULTIPLE LIQUID FILLER

Send for catalog of Pharmaceutical Equipment

ARTHUR COLTON COMPANY

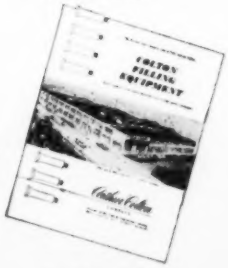
DIVISION SNYDER TOOL & ENGINEERING COMPANY
3481 E. LAFAYETTE • DETROIT 7, MICHIGAN

PLANT NO. 2—500 Bellevue, Detroit • PLANT NO. 3—Mancelona, Michigan

Export Office—13 E. 40th St., New York City

Specialists in Pharmaceutical and Packaging Machinery for nearly 70 years

• • •



Send for catalog of Filling Equipment

Protects... Dispenses... Sells!

it's BEETLE® Plastic... custom-molded for LILLY'S INHALER FORTHANE*

Just see what a combination of functional properties BEETLE *thermosetting urea plastic packs into an inhaler no bigger than your index finger!*

Molded by
Owens-Illinois Glass Co.,
Closure and Plastics Division

protection . . . the BEETLE container is custom-molded to seal in the contents, give absolute protection against contamination; the BEETLE cap gives a smooth, tight closure that won't back up on threads.

chemical resistance . . . BEETLE is odorless and remains unaffected by medicant ingredients, essential oils, many common solvents; it cannot contaminate the medicant . . . its hard surface is smooth and clean.

utility . . . see how the Lilly container is shaped for instant, leakproof dispensing of the inhalant. In fact, quick-molding BEETLE conforms to the most ingenious and complex designs!

color . . . BEETLE's lustrous colors start with brilliant "antiseptic" white, and range out along the spectrum so you can take your choice, get the perfect shade to suit your packaging theme.

AMERICAN Cyanamid COMPANY
PLASTICS AND RESINS DIVISION
32C Rockefeller Plaza, New York 20, N. Y.

In Canada: North American Cyanamid Limited, Royal Bank Building, Toronto, Ontario

Have you a packaging problem? The answer may well be BEETLE. *We invite you to write us and see.*

*Inhaler 'Forthane' (Methyl Hexane Amine, Lilly)

the Perfect Package

For a Fine Product

CONVOLUTELY-WOUND

R·C·
Metal End FIBRE CANS

A STRONGER PACKAGE

Wilt and sag proof! This convolutely-wound fibre container makes a stronger package with built-in durability to resist wet hands in the kitchen and bathroom—right down to the last sift!

A NEATER PACKAGE

Your label has its best appearance on an R. C. convolutely-wound can because it is applied dry, without gum. The adhesive is on the body of the fibre can. No moisture will affect its appearance, giving the product top shelf appeal.

4 Factories to Serve You

R·C· CAN COMPANY

R. C. CAN CO. The Stamp of Quality ST. LOUIS, MO.

MAIN OFFICE and Factory **9430 Page Blvd., St. Louis 14, Mo.**

Branch Factories: **Arlington, Tex.; Rittman, O.; Turner, Kans.**

SALES OFFICES: C. E. DOBSON, 1003 Carondelet Bldg., New Orleans 12, La. • R. C. CAN CO., 225 West 34th St., New York, N. Y. • L. C. MORRIS CO., P.O. Box 3218, Sta. F., 1156 Dalon Dr., N.E., Atlanta, Ga. • S. W. SCOTT, 608 McCall Bldg., Memphis 3, Tenn. • E. F. DELINE CO., 224 W. Alameda, Denver 9, Colo. • W. L. BENNETT, 126 S. Third St., Minneapolis 1, Minn. • CAN SUPPLY CO., 1006 W. Washington Blvd., Los Angeles, Calif.

Time stands still inside your package . . .

Does every tick of the clock rob your product of a fractional share of its original goodness?

If your product is painstakingly perfect the day you pack and ship it, will oxidation, moisture or light steal some of that goodness before it reaches the consumer?

Such loss need not occur . . . not in this age of scientific packaging. Today's packaging engineer has dozens of flexible materials to choose from. Each has its own unique protective characteristics. By combining several layers of these materials into a single sheet, Acmeflex allows you to handpick the protective qualities you need.

Acmeflex is available in an almost unlimited range of combinations . . . transparent films, metallic foils, plastic-coated papers, combinations of all three! You specify the protective and visual goals of your packaging, we do the rest. Acmeflex can be printed to your specifications and is delivered on webs for high speed packaging equipment.

SEND FOR THE ACMEFLEX CATALOGUE today. It contains samples of typical Acmeflex combinations together with their protective specifications.

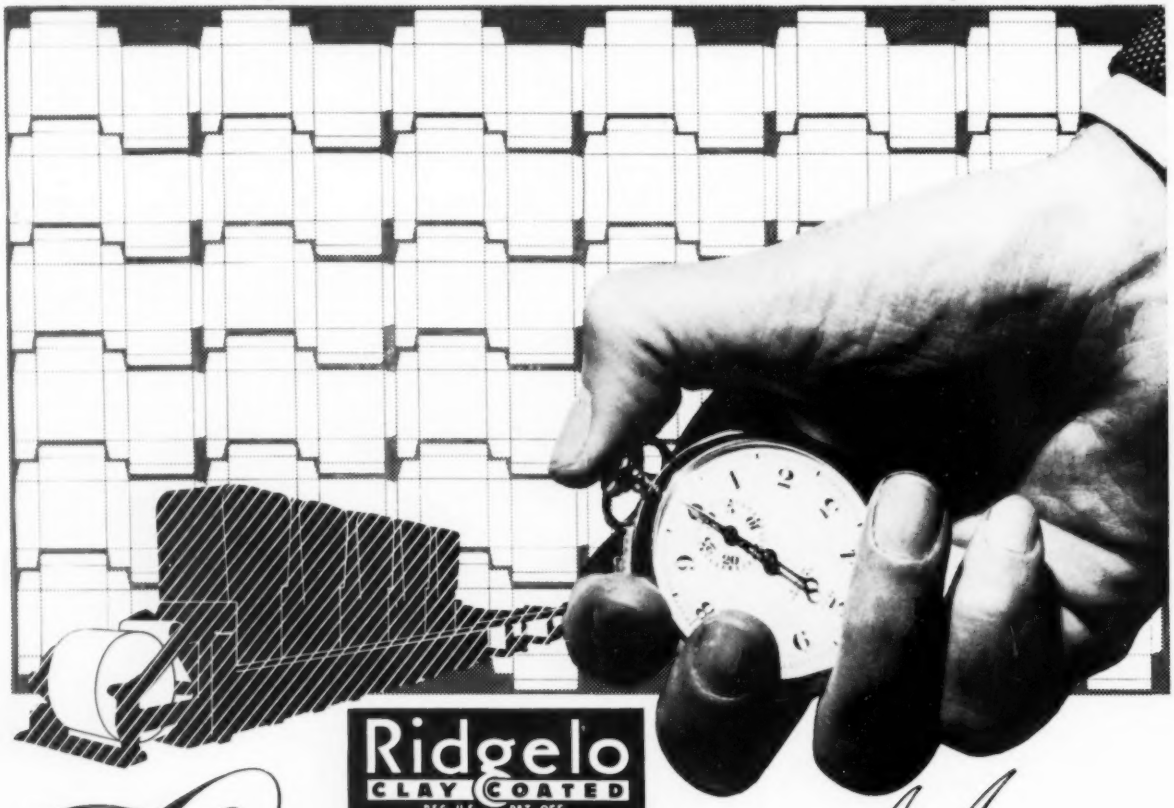
ACME BACKING CORPORATION
Meadow and Bogart Streets, Brooklyn 6, N. Y.

ACMEFLEX

The barrier packaging that defies the elements.

For High Fidelity Printing by High Speed Gravure

Perfect Uniformity! Maximum Yield! Minimum Waste! Exceptional Gloss!



Ridgelo
CLAY COATED
REG. U.S. PAT. OFF.
BOXBOARDS

Custom Made

Clay Coated Boxboard That Sets The Industry's Quality Standard

COSTS are calculated in fractions—by manufacturers of cigarettes, beverages, candies, and other multi-million unit products. High speed rotogravure printing often offers them important savings in packaging costs. And the savings can be achieved, with no sacrifice in carton appearance, if the *right* kind of boxboard is used.

To scores of sales leaders, the *right* kind of boxboard means just *one* kind . . . Ridgelo clay-coated, custom-made! It is available in such a variety of fine finishes, of pigmented and light-fast colors, as to meet most any requirements. In fact, it is custom-made, to order, to *precisely* fill every customer's bill. Try it for *your* next carton job!

MADE AT RIDGEFIELD, N. J. BY LOWE PAPER COMPANY

POLYETHYLENE Specialty of the Month

Reggie Ridgelo presents a strong, light-weight, *EASY TO GLUE POLYETHYLENE BARRIER BOARD* with excellent moisture and grease resistance, for food, detergent and chemical packaging.

Reggie invites you to investigate RIDGELO POLYEON which combines the outstanding properties of Polyethylene with selected materials, to help produce superior packaging for your customers.

Write today for your samples of POLYEON Barrier Boards, Food Boards, Kraft, Foil, Non-woven Cloth, Boxboard, Tag and other sales-building combinations for protective packaging.

REPRESENTATIVES • Detroit – H. B. Royce • Philadelphia – Philip Rudolph & Son, Inc. • St. Louis – A. E. Kellogg • Los Angeles – Norman A. Buist

ALROL Processes ALUMINUM from INGOT to FOIL

We are a Canadian firm, producing aluminum foil from the ingot, with every phase of production in our own plant.

As converters for many years, we know this over-all control is vital to the manufacture of quality foil.

There are no aluminum shortages in Canada—our raw material stocks are adequate and we can give 3 week delivery at all times on foil orders.

Our 3 week delivery and close proximity* to American demand make Aluminum Rolling Mills Limited a logical primary or alternative source for aluminum foil.

Immediate Consideration to All Inquiries.

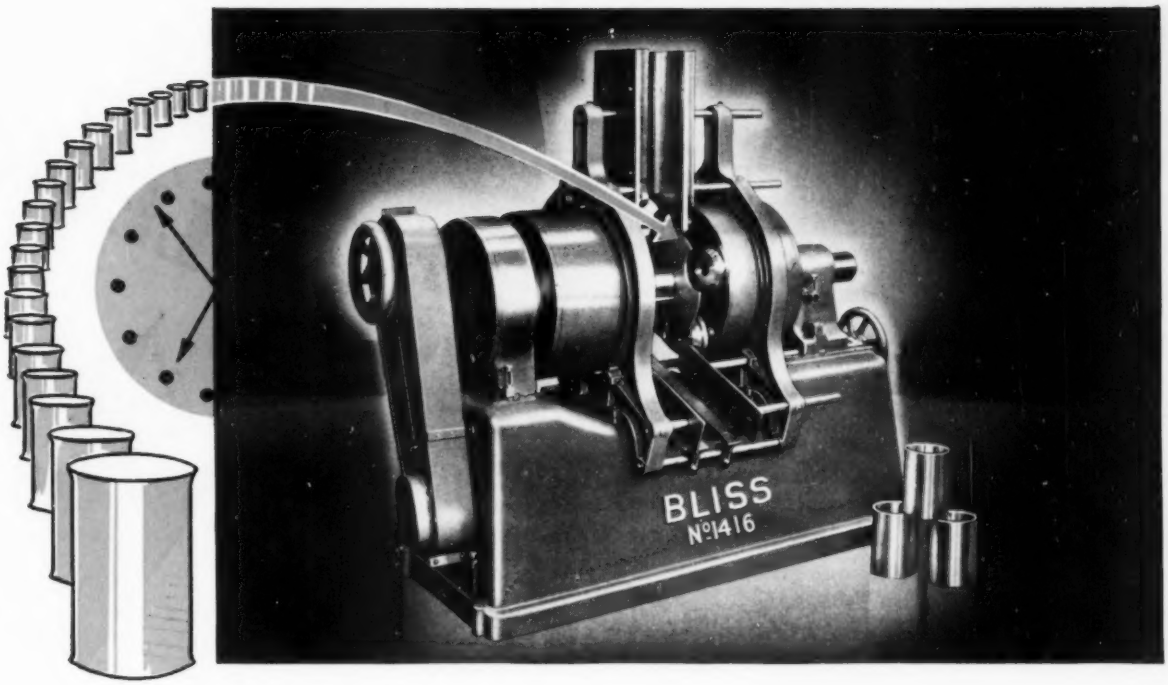
*Our plant at Cap-de-la-Madeleine, Quebec is located less than 150 miles from the American border and within 24 hours rail distance of the industrial centres of the eastern United States.

ALUMINUM ROLLING MILLS LIMITED

Executive offices & plant: CAP-DE-LA-MADELEINE, QUE., CANADA

Cable addresses: "LAPACO" and "ALROL"

ALROL



Hour in and hour out . . .

DEPENDABLE BLISS round can flangers produce perfect double end flanges at high speeds

Which of these two flangers best suits your needs?

- *The 1315 Flanger with eight stations flanges cans from 2" to 4-3/16" diameter; from 2" to 8" high.*
- *The 1416 Flanger (illustrated) has four stations, and flanges No. 10 and similar-sized cans.*

Both models are fast and fully automatic. But, more important, both are engineered to give *long, trouble-free* performance. Flanging slides are closely spaced to allow small diameter turrets (note photograph) which work at high speeds with very little wear. All models are housed in a heavy Meehanite cast base.

To learn more about these dependable Bliss Flangers—and other equipment in the Bliss can making line—write or wire today for Catalog 36-A.

E. W. BLISS COMPANY
50 Church Street
New York 7, New York

BLISS on your machine is more than a name . . . *it's a guarantee*

BLISS CAN AND CONTAINER MAKING MACHINERY

Report to
Polyethylene
Bagmakers

a school for bagmakers

expanding production facilities?
up on your packaging film technology?
achieving maximum production efficiency?
do your key personnel have the necessary 'know-how' in this field?

Some industries undergo periods of very rapid expansion that create shortages of high-level production personnel and makes difficult keeping abreast of vital technological and operational developments. On-the-job training is the alternative as it further impedes production.

We have found that existing facilities for training bagmakers' personnel in our particular [illegible] Accordingly, as a service to the industry, we have established a school for the training of key personnel in the operation and maintenance of our equipment and the basic nature and potentialities of the specialty films.

Regular courses are held on each of these films to fully qualify personnel to cope with the problems of production and maintenance as well as to provide the essential background knowledge.

For further information, write:

SCHOOL DIVISION
Roto Bag MACHINE CORP.
130 East 13th St., New York 3, N. Y.

KNOWLEDGE IS KNOWLEDGE

ONE YEAR AGO

we launched our training program for key personnel in the operation and maintenance of our equipment and in understanding the nature of the specialty films. We are proud to report the outstanding success of our school and to pass along to converters everywhere a summary of our experience.

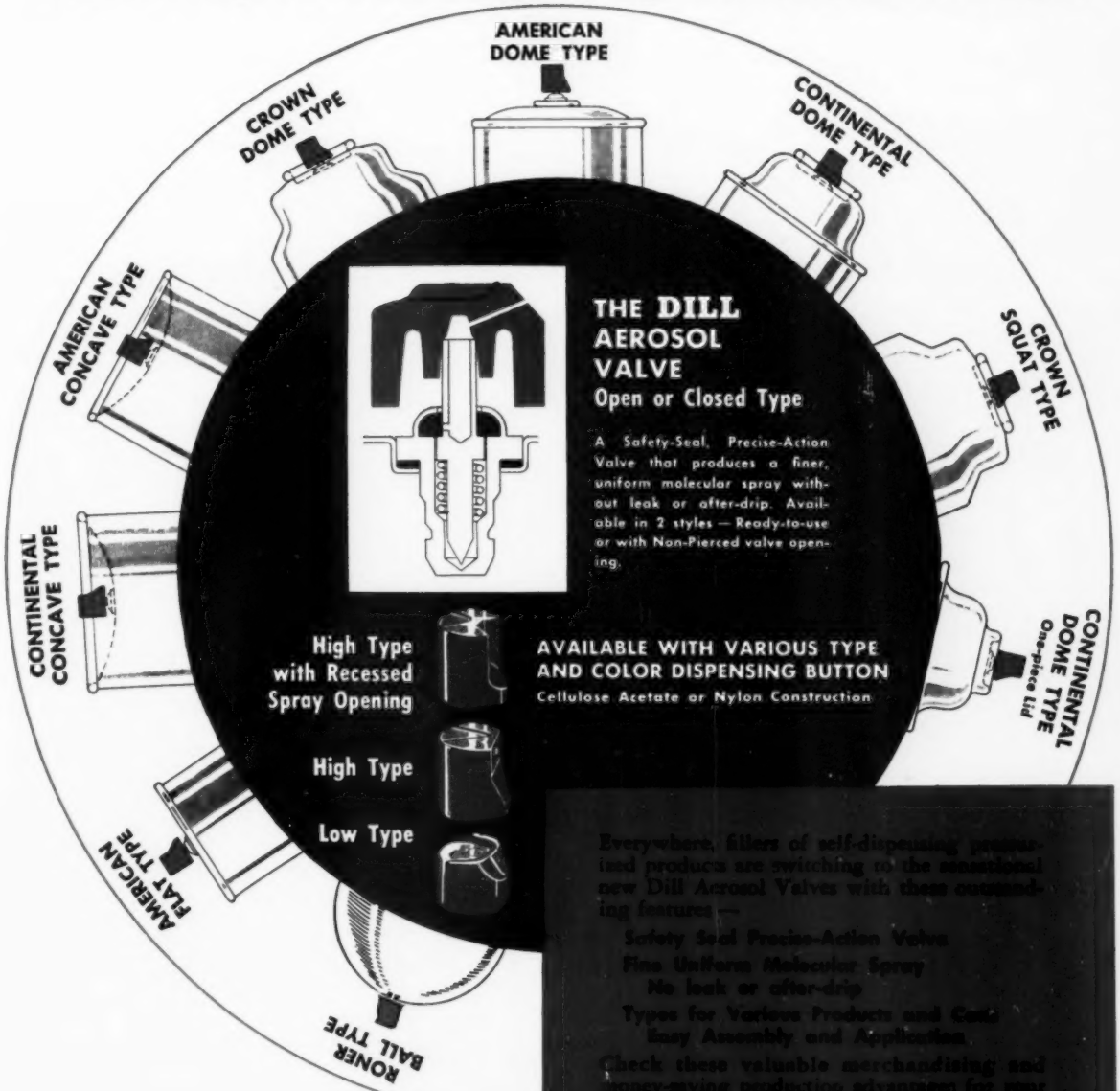
THE KNOWLEDGE IS HERE TO SHARE!

Roto Bag-Holweg

CONAPAC MACHINE COMPANY • 120 EAST 13TH STREET, NEW YORK 3 N. Y.

FITS ALL TYPE CAN LIDS

Now in Use for Self-Dispensing Pressurized Products


AMERICAN DOME TYPE
CROWN DOME TYPE
CONTINENTAL DOME TYPE
AMERICAN CONCAVE TYPE
CROWN SQUAT TYPE
CONTINENTAL CONCAVE TYPE
CONTINENTAL DOME TYPE One-piece Lid
AMERICAN FLAT TYPE
ROLLER BALL TYPE
THE DILL AEROSOL VALVE
Open or Closed Type
A Safety-Seal, Precise-Action Valve that produces a finer, uniform molecular spray without leak or after-drip. Available in 2 styles — Ready-to-use or with Non-Pierced valve opening.
High Type with Recessed Spray Opening
High Type
Low Type
AVAILABLE WITH VARIOUS TYPE AND COLOR DISPENSING BUTTON
Cellulose Acetate or Nylon Construction

Everywhere, fillers of self-dispensing pressurized products are switching to the sensational new Dill Aerosol Valves with these outstanding features —

Safety Seal Precise-Action Valve
Fine Uniform Molecular Spray
No leak or after-drip
Types for Various Products and Cans
Easy Assembly and Application

Check these valuable merchandising and money-saving production advantages for your product. Write for full engineering details and test samples.

THE DILL MANUFACTURING COMPANY
[illegible] St., Minneapolis 3, Minn.

"TOPS" for Reliable Services and Sales Attraction

A PRODUCT OF 45 YEARS' EXPERIENCE IN THE DESIGN AND MANUFACTURE OF SAFETY SEAL VALVES

DILL AEROSOL VALVES

How to tailor your package

PACKAGE FOR GREATER CONSUMER CONVENIENCE
Today's shoppers want packages that make the product easy to use, in convenient units. Like this fractional package of potato chips, that keeps unused units fresh. Perhaps *your* package, too, could profit from extra convenience . . . like an easy-opening feature . . . a neat dispensing method . . . or a fractional put-up.
PACKAGE FOR MORE EFFECTIVE PROTECTION
Freshness protection is what this fractional package of Du Pont Cellophane offers to shoppers. Adequate protection means greater consumer satisfaction . . . more repeat sales. Du Pont offers 115 varieties of films to meet *your* product's requirements.
POTATO CHIPS
4 INNER BAGS
Fresh BRAND
EACH INNER PACK KEPT FRESH IN CELLOPHANE
A fresh serving everytime

Du Pont's merchandising studies...complete

Whatever your packaging problem . . . whether it's a question of getting the right film . . . the most efficient package construction . . . or the maximum appeal to the modern shopper . . . Du Pont's experienced packaging specialists can help you find the answer.

Among the varieties of films made by Du Pont are films that are moistureproof, or that permit graduated moisture loss. Films that are dimensionally stable, or durable enough for irregularly shaped objects. Films that provide brilliant luster, or stay tough and flexible at sub-zero temperatures.

And you can make use of Du Pont's continuing studies of buying habits in your field to keep up to date on consumer likes and dislikes. Get in touch with your Du Pont representative today. E. I. du Pont de Nemours & Co. (Inc.), Film Dept., Wilmington 98, Delaware.

to a changing market

PACKAGE FOR EXPANDING IMPULSE SALES
Product visibility is the key to more impulse sales. This bag of Du Pont Polyethylene Film, for example, shows apples at their tempting best. It also gives heavy produce items the tough, flexible protection they need . . . prevents loss of freshness and flavor.
Fresh BRAND
SALTINE CRACKERS
FOUR PACKS
Selected APPLES
APPLES

packaging service can help you

Only Du Pont gives you all these packaging aids:

1. **WIDE VARIETY OF PACKAGING FILMS** scientifically tailored to meet the needs of varied products and packages.
2. **TECHNICAL** assistance to help you plan the most practical and efficient construction of your package.
3. **MERCHANDISING** help through continuing nationwide surveys of buying habits, to keep your package up to date.
4. **NATIONAL ADVERTISING** to continually strengthen consumer preference for your packaged products.

DU PONT
PACKAGING FILMS
CELLOPHANE • POLYETHYLENE
ACETATE

DU PONT
REG. U.S. PAT. OFF.

Better Things for Better Living . . . through Chemistry

Still Growing!

There's a rising trend towards the packaging of canned products in carry-home cartons. Beer was the first to utilize this merchandising force. Canned soft drinks are the most recent spectacular successes. Others include dog food, motor oils, frozen concentrates, fruit juices . . . and the list is growing monthly.

● A majority of these plants use the Dacam cartoning system. Cartons from Old Dominion Box Company. Automatic cartoning machinery from Dacam Corp. No capital investment is required; the machinery comes with your carton order. We would welcome the opportunity to give you complete details.

OLD DOMINION Box Company Inc.

Dacam Sales Division

CHARLOTTE, NORTH CAROLINA

ARE POLY BAGS YOUR PROBLEM?

...Your answer is in the Bag with an automatic

Simplex **POLYETHYLENE BAG MAKING MACHINE**

Simplex Model 4-7 Automatic Polyethylene Bag Making Machine with Automatic Stacker-Counter-Sorter.

If you're troubled with start-and-stop bag production...excessive operator payrolls...waste of costly film...hard-to-open bags, or other polyethylene bag production problems, then it's high time you checked into the advantages of an automatic *Simplex* Polyethylene Bag Making Machine. Many of the exclusive *Simplex* advantages are listed here, but for a specific answer to your particular problem, please write to *Simplex* today. Give details on bag dimensions, bag uses, desired daily production rates, etc. Address Simplex Packaging Machinery, Inc., 234 23rd Ave., Oakland 6, Calif., Dept. M-5. Your problem will get prompt, expert attention and action.

Only *Simplex* Automatic Polyethylene Bag Making Machines Give You *All* These Advantages!

1. Eight hours of bag production from an eight hour shift!
2. Automatic stacking-counting-sorting allows one operator to handle more than one machine!
3. Poly bags that open easily...completely!
4. Accurate cut-off controls reduce film waste!
5. Clean hole-punching with control over hole positions!
6. Accurate, instant electric eye corrections for printed stock!
7. Continuous control over a clearly visible back seal!
8. Consistently uniform poly bags at reasonable speeds!
9. Prompt nationwide service by factory trained experts!

Can you afford not to investigate a Simplex?

Other Simplex models for cellophane bags...scrim and barrier bags and pouches...Simplex-O-Matic for automatic bag making, filling, weighing or measuring, and sealing. Write Dept. M-5 for details.

Simplex

SIMPLEX PACKAGING MACHINERY, INC.

534 23rd AVENUE, OAKLAND 6, CALIFORNIA

REPRESENTATIVES IN ALL PRINCIPAL CITIES

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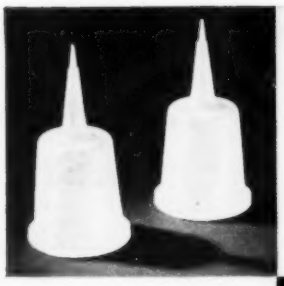
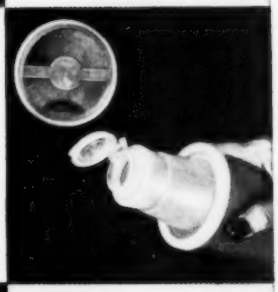
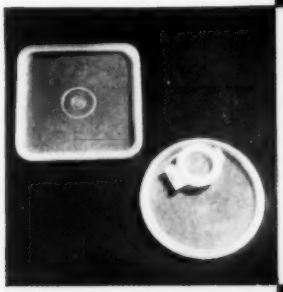
SUBSIDIARY OF FOOD MACHINERY AND CHEMICAL CORPORATION



NOBODY HAS AS MUCH EXPERIENCE AT MOLDING POLYETHYLENE AS TUPPER!



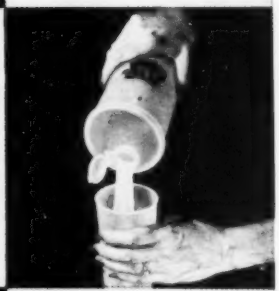


Tupper Seals are air and liquid-tight flexible covers. The famous Pour All and Por Top covers are designed for easy dispensing. They are made in sizes to fit all Tupperware containers.

The logical molder for you to consult regarding that product or package of yours which is to be made of polyethylene is Tupper. Tupper has done more than any other molder to make molded polyethylene a practical reality.

Aside from having designed, patented, and promoted successful seals, closures, and dispensers for polyethylene containers, the Tupper Corporation has vast experience in *every phase* of polyethylene packaging and polyethylene injection molding. This experience will be of major importance in improving your product, in reducing your costs, when Tupper goes to work for you.

Tupper's combination of experience, technical ingenuity, and the most modern equipment is at your service for the custom molding of your product in polyethylene. You can do no better than the best ...and the best at molding polyethylene is Tupper!



When equipped with Tupper Seals, Tupper Canisters, Sauce Dishes, Wonder Bowls, Cereal Bowls and Funnels in various sizes are the most versatile reusable containers you have ever seen.

TUPPER!
TRADE MARK

TUPPER PRODUCTS ARE FULLY PROTECTED

About 150 United States and foreign patents and patents applied for, plus numerous trademarks and copyrights, cover the design and manufacture of the various types of Tupper Seals and other Tupper Products. Unauthorized manufacture of items covered by Tupper patents will subject infringers to prosecution.

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Manufacturers of — CONSUMER, INDUSTRIAL, PACKAGING AND SCIENTIFIC PRODUCTS

Factories, Laboratories and Sales Offices:
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Showrooms: 225 Fifth Ave., N. Y. C.

Address all communications to: Dept. MP-5

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Home of "PLANNED PACKAGING"

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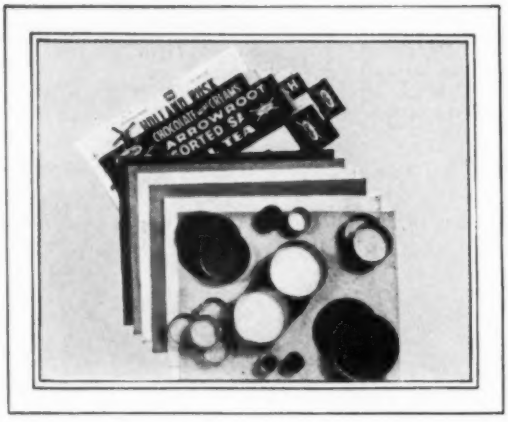
YOU, too, can save by putting BECK in your picture!



The adaptable BECK Automatic Roll Sheet Cutter makes possible both manufacturing pictures . . . it cuts sensitized photographic paper for the Haloid Company of Rochester, and closures or waxed material for the Irvington Varnish & Insulator Co. of Canada Ltd., of Hamilton, Ont.

And it does both these jobs at a saving . . .

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REMEMBER: If it comes in rolls, the Beck will cut it, count it and stack it!

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* *CELLOPHANE is the registered trade mark of British Cellophane Limited, in the following countries: Great Britain, Australia, Ceylon, Cyprus, Denmark, Eire, Gibraltar, Hong Kong, Iceland, India, Jamaica, New Zealand, Pakistan, Northern Rhodesia, Southern Rhodesia, Trinidad and Tobago, and the Union of South Africa.*

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NOW CELLOPHANE-WRAPPED ON SCANDIA MACHINES

Here's unit first aid in it's finest form . . . remarkably improved to lower your costs, give greater service in the field!

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FEATURES

- HIGH SPEED WRAPPING
- AUTOMATIC INTAKE
- EASY OPENING TAPE
- CONTINUOUS OPERATION
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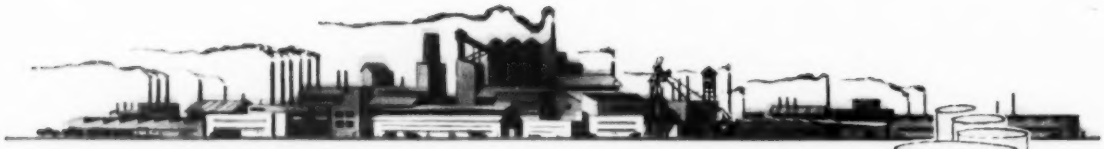
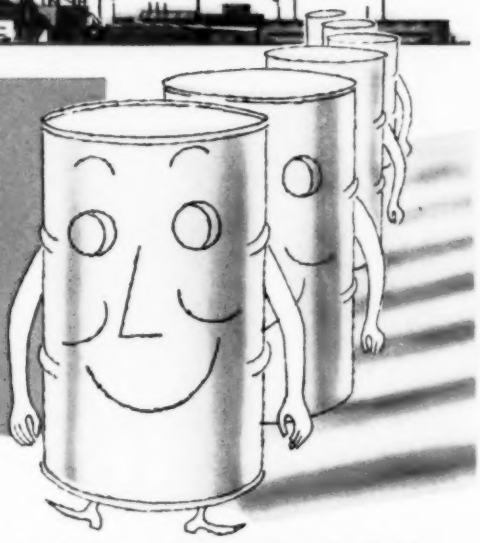


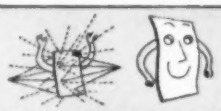
Rheem Drums are built of Cleaner Steel for Longer Life!



6-STEP PREPARATION—

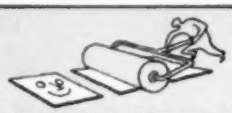
BEFORE FABRICATION—MEANS SAVINGS FOR SHIPPERS!

1



Shot-blasting process removes troublesome oxide scale from both sides of the steel sheet and leaves a clean, oxide-free surface.

2



The sheet is rolled and leveled to insure a smooth even surface necessary for precision roller coating.

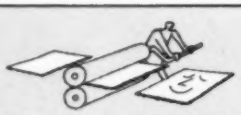
3

Detergents, scalding water and revolving brushes scrub each sheet clean, followed by rinsing and drying.

4

The sheet is treated on both sides with a special patented phosphoric compound to inhibit rusting, enabling Rheem Drums to withstand long periods of weathering.

5



Special coatings, where required, are roller-coated under precision control that eliminates rust-producing thin spots.

6

Coatings are baked-on to produce a tough, durable finish that protects your product from contamination.

IMPORTANT TO SHIPPERS!

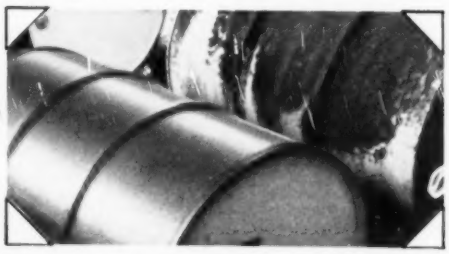
Rheem has a complete line of special drum linings for a variety of products. And if your product requires a different lining, each of Rheem's seven strategically-located container plants has complete laboratory facilities to help you. Rheem chemical engineers have solved container problems for many of America's largest shippers. Call or wire the office nearest you!

Free Folder

Write today to the nearest Rheem Manufacturing Office listed below for your free copy of informative folder on Rheem Drums.

YOU CAN RELY ON Rheem

RESULT OF RHEEM CARE After more than a year and a half of continuous outdoor exposure, in an area of heavy rainfall and high humidity, Rheem drums are still in excellent condition ... while ordinary spray-finished drums on test for the same length of time show signs of advanced deterioration.



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Rejections giving you trouble?

Use the triple-tested

PRESDOME VALVE

No aerosol product is better than its valve—and no valve is better than Schrader's . . . produced with fully automatic machinery . . . nothing but raw materials bought outside. Schrader has the greatest research and manufacturing facilities.

The Schrader Aerosol Valves use the same time-tested seating principle as used in the Famous Schrader automotive tire valve.

Schrader Aerosol Valves mean lower rejection rates because they receive the most thorough inspection . . . they're triple tested . . . every critical component part 100% machine tested for correct tolerances. Elimination of "dud" returns from retailers protects the reputation of your product.

Arrow Points to Direction of Spray
Flexible Portion Counter-Sunk
Valve Pin
Solid Button Recessed for Valve Pin
Solid Plastic Dome Grips Closure Shoulder After Loading

Schrader Aerosol Valves offer improved performance. They are positive sealing, with quick positive spray shutoff. Good-looking Presdome Caps give easy and comfortable finger-tip operation to your aerosols. You merely press the countersunk dome. Presdome Caps also have eye-catching sales appeal! Various Colors can be made to match your label on request.

Schrader

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AEROSOL VALVES made by the manufacturer of the Standard Tire Valve since the first Automobile

Visit the Schrader Suite at the 40th Mid-Year Meeting of the Chemical Specialties Mfrs. Association, Netherland Plaza Hotel, Cincinnati, Ohio, May 24-25, 1954.

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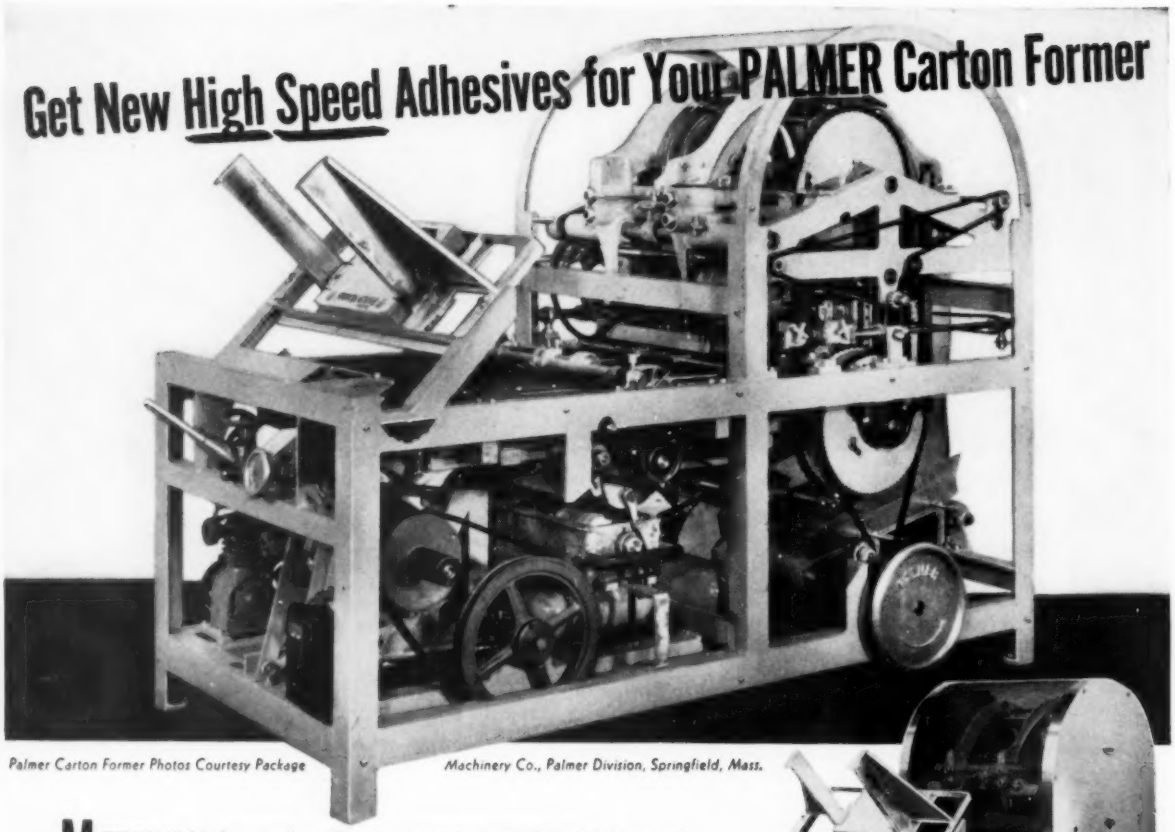
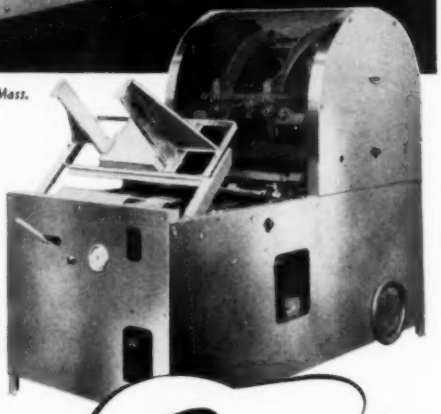
Get New High Speed Adhesives for Your PALMER Carton Former



Palmer Carton Former Photos Courtesy Package Machinery Co., Palmer Division, Springfield, Mass.



MODERN high speed packaging requires modern high speed *ADHESIVES!* Paisley Scientific Research has anticipated industry's needs. Remarkable new Adhesives have been developed for Super-Speed operations. Whether it's a PALMER (102 per minute) Continuous Carton Former or other high speed machines, there's a Paisley Scientific Glue developed to the highest known degree of perfection for *each specific operation!* You can expect efficient, continuous production, hour after hour, from these new and better Adhesives. They are designed for single or double end cartons and for whatever stock is being run. And they'll withstand the constant agitation of fast applying mechanisms. Tell us your package forming or labeling problems. Benefit from the newest developments in Scientific Adhesive engineering.

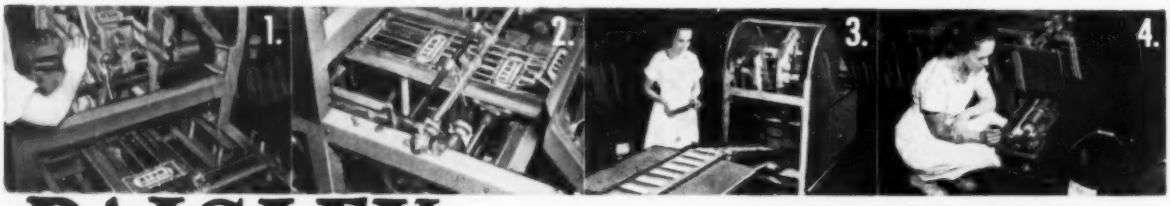
SEND FOR . .

- ☐ **Free set of Laboratory Reports describing wide range of Paisley Adhesives for Palmer Machines.**
- ☐ **Free 6 page Folder and Adhesive Operation Data Sheet for consulting service on correct adhesives to fit ALL your labeling, sealing and packaging operations.**

Paisley SCIENTIFIC ADHESIVE SERVICE

1. & 2. *Continuous chain feeds glued blanks to mandrels and forming plates—glues must seal instantly on contact at speeds over 100 per minute!*

3. & 4. *Continuously revolving glue rollers require dependable, economical adhesives that won't break down under constant agitation.*



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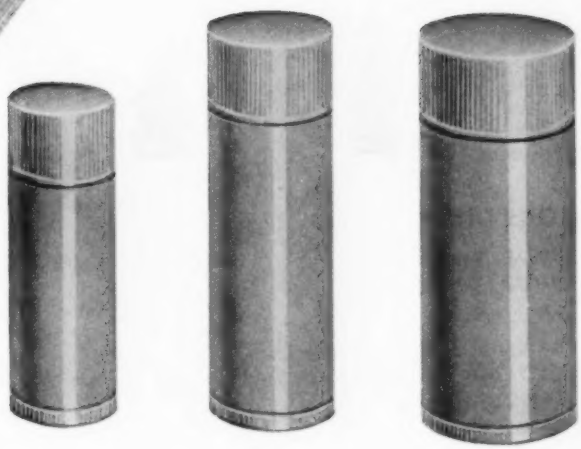

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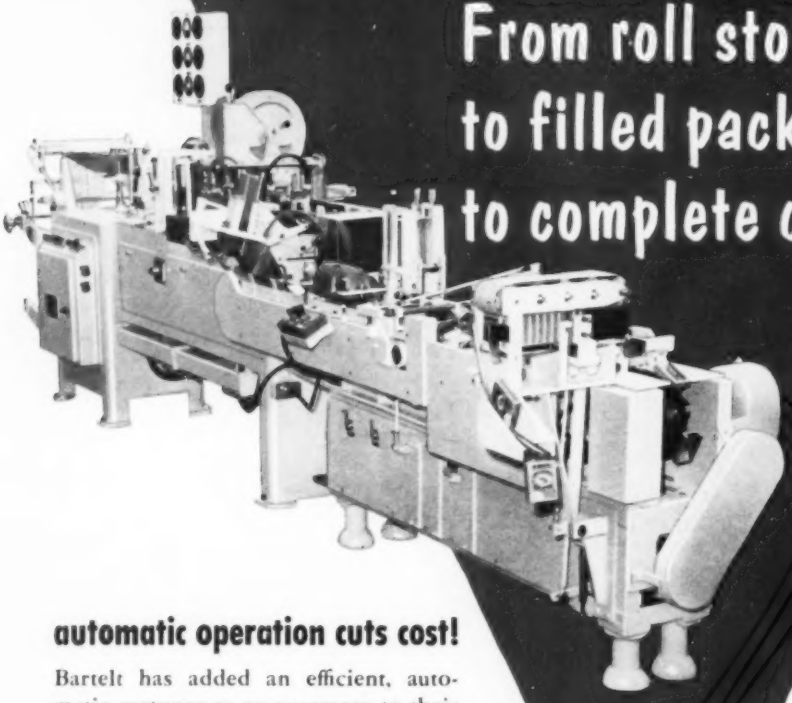
ANOTHER PACKAGING TRIUMPH!

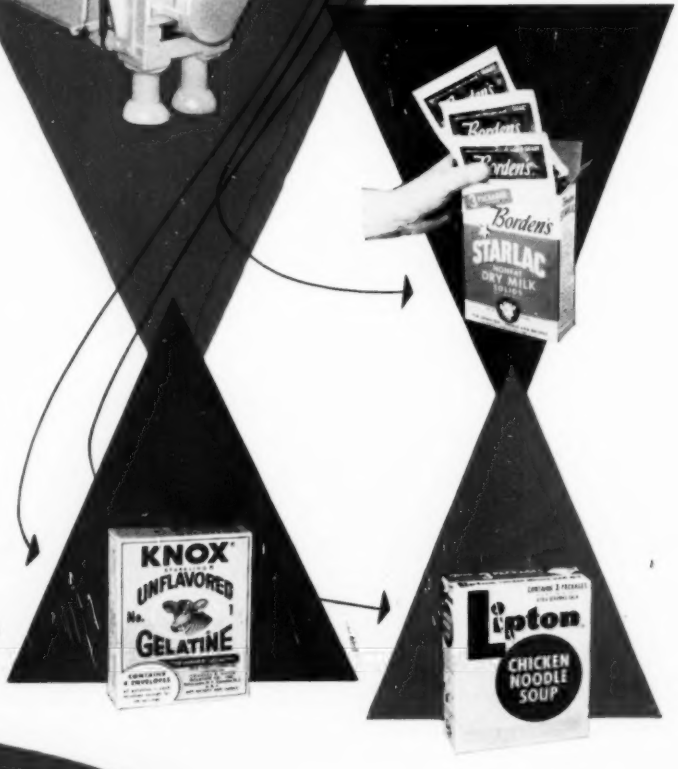
From roll stock... to filled packages... to complete carton!



automatic operation cuts cost!

Bartelt has added an efficient, automatic cartoner as an accessory to their popular packaging machine. Now, automatically without additional operators this machine will: (1) Form a pouch style bag from a roll of preprinted paper, film, or foil. (2) Fill the bag accurately. (3) Heat seal safely. (4) Transfer finished pouch to the cartoner. (5) Set up carton, insert the desired number of pouches, glue or tuck ends of the carton. (6) Rack package in compression track for transfer to overwrap or for caser.

The dependability of these machines is greatly increased by a simplified design and efficient, precision manufacturing. If you can use a pouch style, heat sealed package . . . *send us your packaging problems.*



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ROCKFORD, ILLINOIS

EQUIPPED WITH WARNER electric motion control

"Machinery for Creative Packaging"

Want to give your frozen food product a new kind of home-made flavor-fresh packaging appeal?

If your specialties aren't moving as fast as you want them to, move them into a new look in frozen food packaging. Sealright's brand new idea in packaging—the plastic-coated paper container *keeps* and *protects* the true flavor of your hard to package foods. But more than that, round Sealright packaging gives your frozen oyster stew, or your shrimp creole, or clam chowder a home-made, flavor-fresh packaging appeal.

Sealright's fresh-look round containers fit into any fast, automatic packaging program, too.

Sealright

ALSERVIS NESTYLE
Plastic-Coated Containers

Oswego Falls Corp. — Sealright Co., Inc., Fulton, N. Y., Kansas City, Kansas — Sealright Pacific Ltd., Los Angeles, California — Canadian Sealright Co., Ltd., Peterborough, Ontario, Canada.

SEALRIGHT CO., INC., Fulton, N. Y. MP545

Please send me some samples and more information on Sealright's newest idea in paper packaging.

Name ..... Title .....

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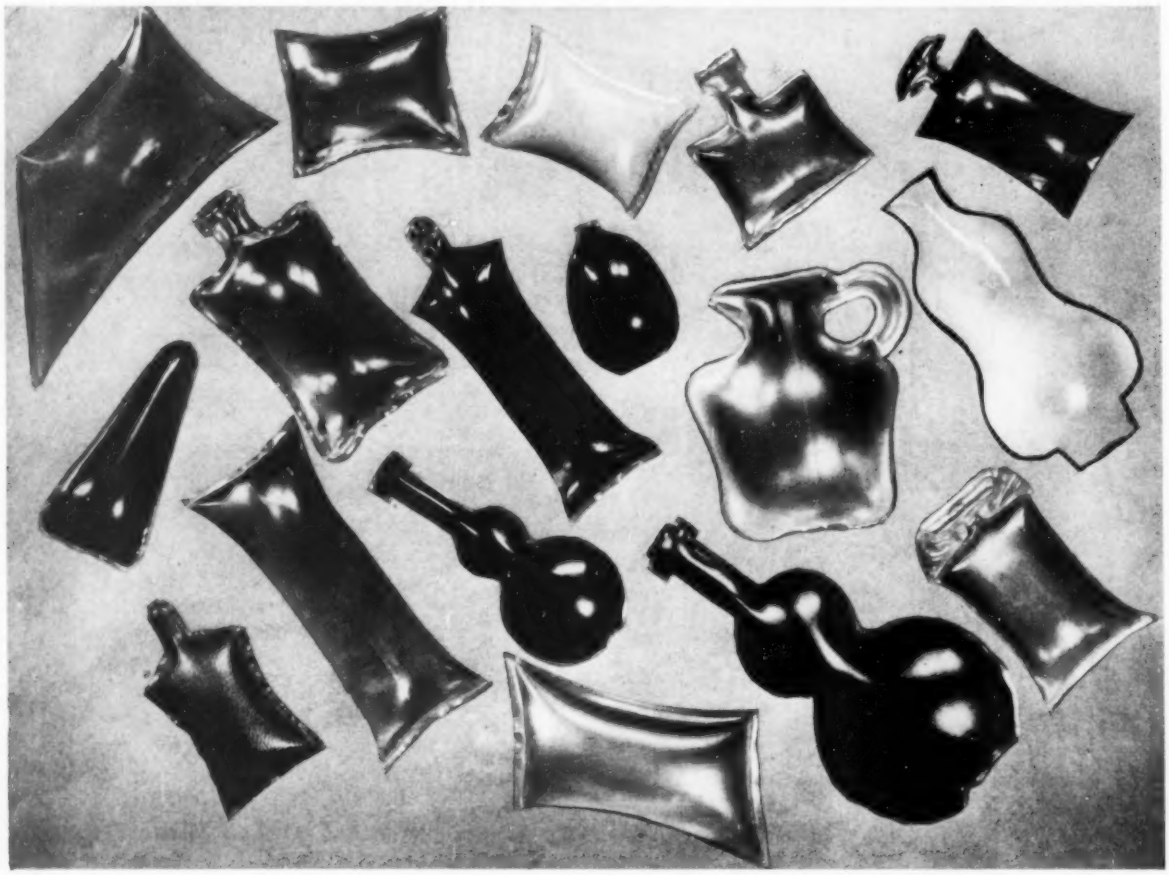
THE RADO PACK

Efficient, Very economical, Safest in distribution, Simplest, most convenient, Attractive, Displays the product, Lightest, easiest to pack, Unbreakable



ALL the advantages of Unit Packaging are embodied in Packs produced by the RADO SYSTEM—based on the RADO patents—the only fast, efficient way of producing such packages. Further interesting developments pending; ask for details NOW!

WE will pack YOUR product in packages of YOUR own design, decoratively emboss them to YOUR wishes, print them attractively to YOUR requirements. Almost ANY kind of liquid, semi-liquid or pastelike product can be successfully packaged by the RADO SYSTEM.

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RADO
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DRUM FINISHED

MADE ONLY BY THE CHAMPION PAPER AND FIBRE COMPANY

The COLORCAST line of box wrap is available in white and a range of clear brilliant colors: Canary Yellow, Royal Blue, Christmas Red, Christmas Green, Patent Leather Black, and Ivory.

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put your products on a pedestal

Join the proud packagers
who have Rowell create
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that put their products
on a pedestal.

Manufacturers of Fine Paper Boxes

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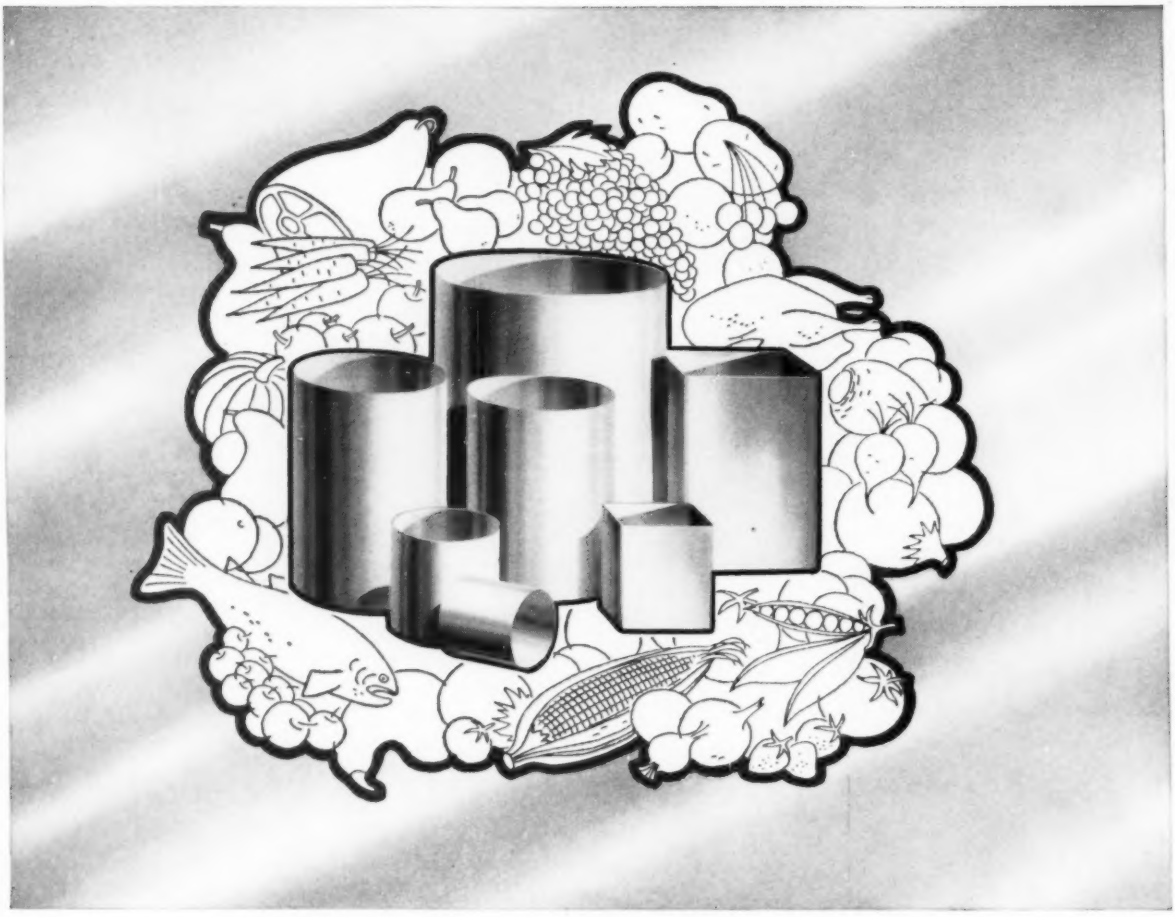


Partners in DEPENDABILITY

Modern TIN PLATE by J & L

J&L Tin Plate provides dependability resulting from the skill and accuracy of modern steelmaking.

Steel quality and tin plating are very carefully controlled . . . and, exceptionally strict standards of inspection are maintained at all times. J&L Tin Plate conforms consistently to the specifications of can makers and packers who protect their products with tin containers.

Modern TIN Containers

Modern tin containers provide protection for the products they carry safely to market. They make possible the distribution and marketing of a large percentage of our foods, oils, paints, beverages, and other products.

This most dependable type of packaging begins with the production of good tin plate. It is completed by the skill of the modern can-makers.

SERVICE TO YOUR MEASURE

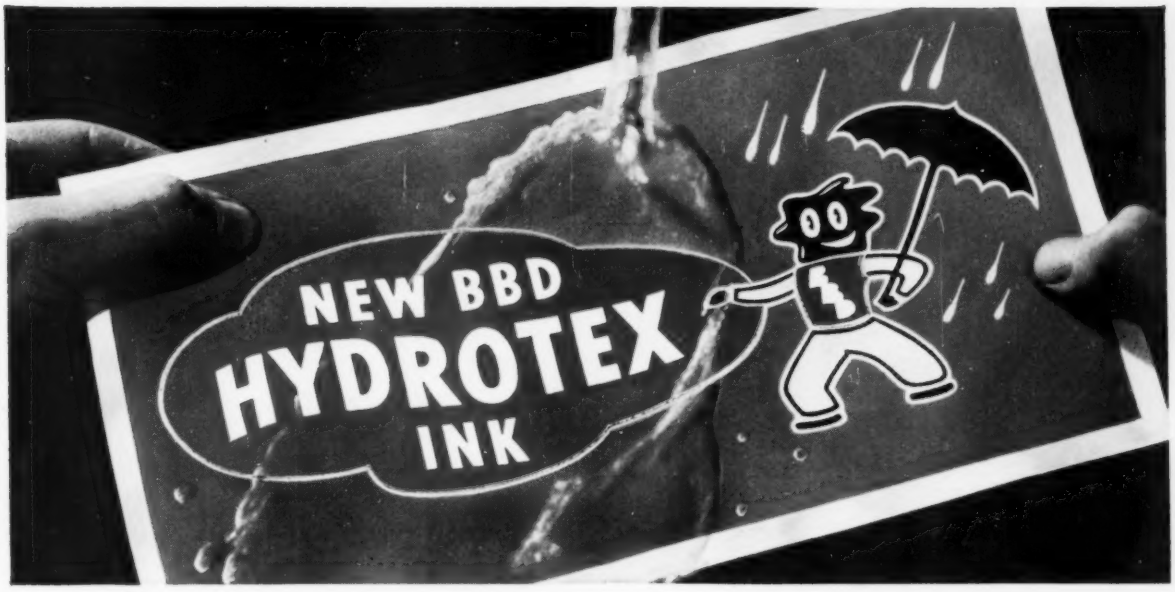
1. Your orders are handled promptly and efficiently. You receive J&L Tin Plate *as promised.*
2. Your stock of J&L Tin Plate can be maintained at the levels that fit *your* needs.
3. You may have the assistance of J&L metallurgists to help solve your technical problems.

J&L STEEL

Jones & Laughlin

STEEL CORPORATION — *Pittsburgh*

Now...a water-base flexographic ink that does not run in water



...for colorful, low-cost, *water-fast* printing on · TISSUE · BOND SULPHITE · MACHINE-FINISH · GLASSINE · KRAFT · BOXBOARD

HYDROTEX INK is BBD's newest development... a flexographic ink with the advantages of earlier water-base inks *plus* water-fastness and higher rub-resistance. It is ideal, therefore, for printing all types of packaging and specialty papers that may be exposed to moisture at various stages of their end-use or that may be subject to rough handling and scuffing.

Water-fast HYDROTEX INK dries to a smooth flat finish that is especially desirable on gift and merchandise wraps, wrapping papers, notion and shopping bags, shipping cases, clothing boxes, shelf papers and other specialties. It gives exceptionally color-strong and light-fast results... and prints with unusual cleanness. Even smallest type reproduces sharply and without fill-in when printed with HYDROTEX.

Although HYDROTEX does not bleed in water after it is printed, water may be used to thin it on the press, and to wash up plates, rollers and fountains. This makes it very economical in use. A 100% pigment ink with a low viscosity at high color concentrations, HYDROTEX combines excellent hiding power with trouble-free press properties. It does not foam in the fountain nor build up on rollers and plates... dries fast and free of tack.

Get more information about BBD HYDROTEX INK — and convincing printed samples — by contacting your nearest BBD office or writing direct to *Bensing Bros. & Deeney, 3301 Hunting Park Avenue, Philadelphia 29, Pa.*

Free

HYDROTEX INK COLOR GUIDE

Useful new reference book showing standard HYDROTEX INK colors, printed on tissue, bleached kraft and natural kraft ...sent free. Just drop us a line on your company letterhead.

Bensing Bros. and Deeney
SALES COMPANY
Flexographic Ink Specialists
PHILADELPHIA · CHICAGO · LOS ANGELES
CAMBRIDGE, MASS. · MONROE, LA.
Export: McLAURIN-JONES CO., New York
Canada: MANTON BROS., Toronto

Next to Nature's own containers...
your best bet is a

MILLER BOX

When it comes to functional design, we doff our cap to Mother Nature . . . but to no other boxmaker!

Miller Boxes, in fact, are designed to function in more ways than one. They're designed for *protection* . . . with the rigidity that only set-up boxes can provide. They're designed for *sales appeal* . . . with the attractive appearance that comes with fastidious attention to construction details. They're designed for *economy of loading* . . . because they require fewer operations at the business end of your production line.

Leaders in many fields . . . pharmaceutical, hardware, jewelry, stationery, toy, confectionery and others . . . have found that Miller Boxes bring the best answers to today's packaging problems. May we show you samples, and submit some suggestions for *your* packaging needs?

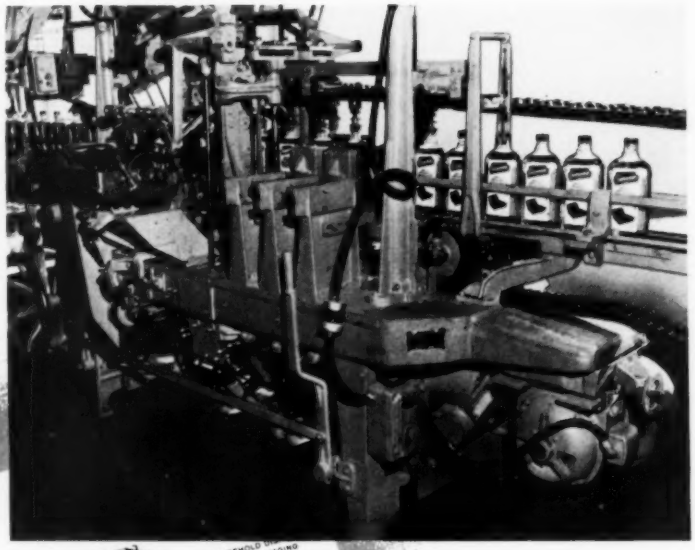
Walter P. Miller Company, Inc.

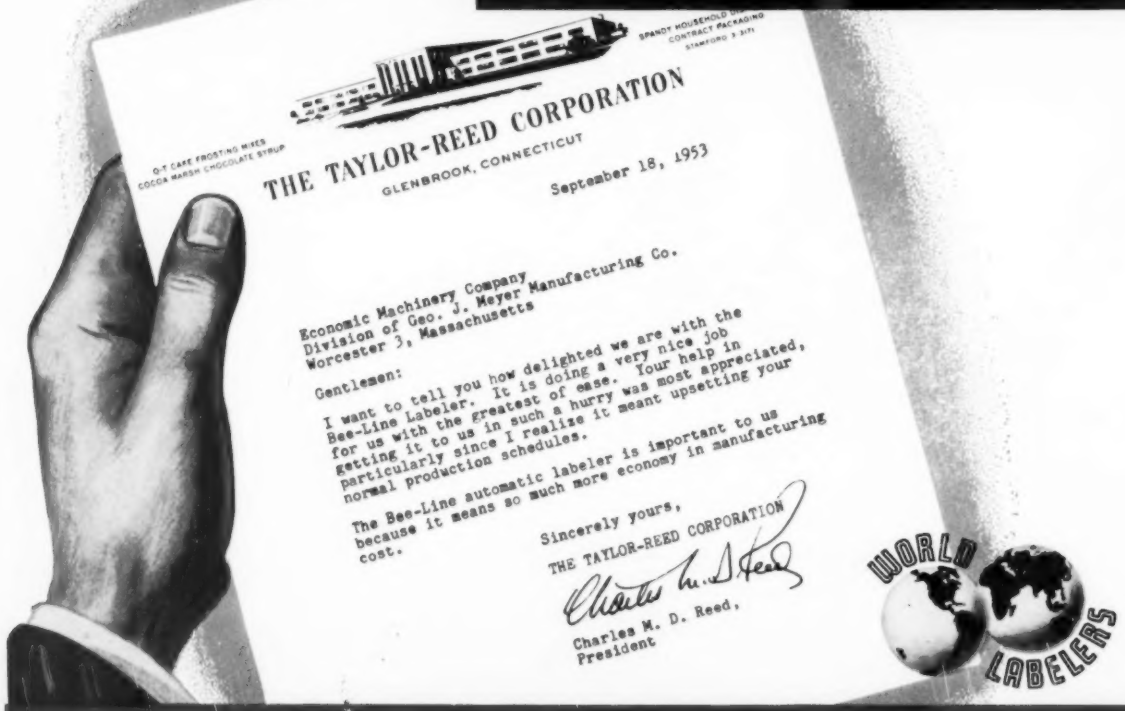
452 YORK AVENUE • PHILADELPHIA 23, PENNSYLVANIA

Repeated handling won't dim the attractiveness of sturdy Miller Boxes, such as this sample box manufactured for White Laboratories.

BEE-LINE *To better labeling*

Your glass packed products belong on the BEE-LINE. Send us samples of your containers and labels so we can submit complete recommendations, layouts and production and cost estimates covering the best Labeler in the World for you — the WORLD Automatic *Bee-Line* Labeler.





THE TAYLOR-REED CORPORATION

GLENBROOK, CONNECTICUT

September 18, 1953

Economic Machinery Company
Division of Geo. J. Meyer Manufacturing Co.
Worcester 3, Massachusetts

Gentlemen:

I want to tell you how delighted we are with the Bee-Line Labeler. It is doing a very nice job for us with the greatest of ease. Your help in getting it to us in such a hurry was most appreciated, particularly since I realize it meant upsetting your normal production schedules.

The Bee-Line automatic labeler is important to us because it means so much more economy in manufacturing cost.

Sincerely yours,
THE TAYLOR-REED CORPORATION
Charles M. D. Reed,
President

WORLD LABELERS

ECONOMIC MACHINERY COMPANY

48 FREMONT STREET, WORCESTER 3, MASSACHUSETTS
DIVISION OF GEO. J. MEYER MANUFACTURING CO.
CUDAHY, WISCONSIN, U. S. A.

PACKAGE YOUR PRODUCTS WITH

Glamour

at low production cost.

Smooth, streamlined, light in weight yet strong . . . and available in any length and diameter desired. . .

CLEVELAND CONTAINERS CAPTURE ATTENTION . . . HAVE HARD HITTING SALES APPEAL.

Any product . . . whether it be a sleek new style girdle, or any one of hundreds of other products . . . can be enhanced when packaged in a Cleveland Container, with an attractive, easily applied single or multi-color wrap or label.

For added protection liners of aluminum foil, parchment, paraffin, glassine, etc., are available, depending on the product.

Our long experience enables us to offer you expert advice on any packaging problem.

Large production facilities ensure prompt deliveries from our conveniently located plants.

WHY PAY MORE? . . .
For good quality, call Cleveland!

For our new Packaging Folder, write the Cleveland Container plant nearest you.

The CLEVELAND CONTAINER Co.
6201 BARBERTON AVE. CLEVELAND 2, OHIO

- **All-Fibre Cans • Combination Metal and Paper Cans**
- **Spirally Wound Tubes and Cores for all Purposes**

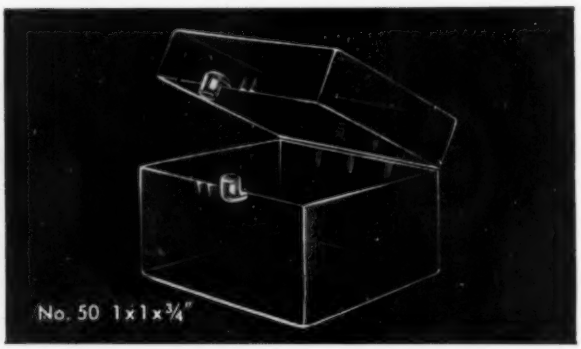
PLANTS AND SALES OFFICES: Cleveland, Chicago, Detroit, Memphis, Plymouth, Wisc., Ogdensburg, N. Y., Jamesburg, N. J., Los Angeles • ABRASIVE DIVISION at Cleveland. SALES OFFICES: Grand Central Terminal Bldg., New York City; Washington Gas Light Bldg., Washington, D. C.; West Hartford, Conn.; Rochester, N. Y.

Cleveland Container Canada, Ltd.: PLANTS AND SALES OFFICES: Toronto and Prescott, Ont. • SALES OFFICE: Montreal.

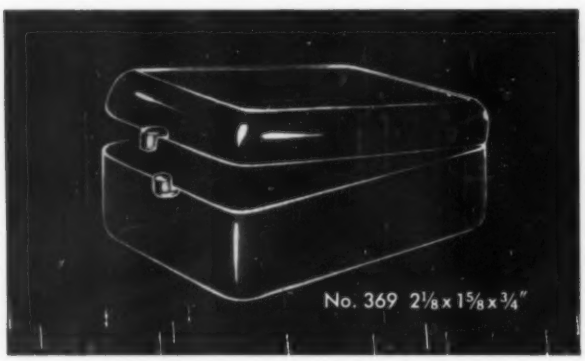
PUT YOUR PRODUCT ON DRESS PARADE

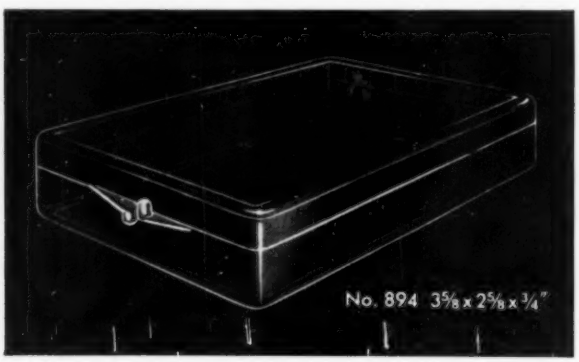
WITH HAKE PLASTIC BOXES

Hake stock or custom designed, molded boxes, famous for finish, quality and workmanship, are available in crystal clear, opaque or Tutone rigid polystyrene *in a wide range of sizes* with or without imprint. Each protects and displays its contents to the best advantage. All are re-usable—a feature with tremendous appeal to the public. All incorporate Hake's unique patented hinge, allowing full 180° lid opening with sufficient friction to hold it in any position plus positive type latch.



Hake ball and socket hinge is patented (No. 2,570,341). Hake has successfully brought suit for infringement and was awarded a Permanent Injunction by the U.S. District Court. Only the Hake Plastic Box Corp. can sell plastic boxes with hinge covered by this patent. Canadian Patent No. 491,875.





HAKE PLASTIC BOX CORPORATION

1215 MIDVALE AVE., S. W., ROANOKE, VIRGINIA

NEW YORK SALES OFFICE—EMPIRE STATE BLDG., ROOM 1022, CH 4-3148

PHOTOGRAPH COURTESY FIRST NATIONAL STORES, INC., SOMERVILLE, MASS.

How does your package meet the eye?

The makers of good things to eat have discovered the secret of whetting appetites through colorful wraps and labels. And many of them already know that attractive package creations receive added appeal by sparkling, realistic reproduction on Oxford papers. This special ability of Oxford grades to help create the urge to buy makes them fit foundation for your own package design. Try them and see.

Oxford Papers

Help Build Sales

For your next letterpress job

Specify

OXFORD

Mainefold Enamel

OXFORD PAPER COMPANY
RUMFORD, MAINE • WEST CARROLLTON, OHIO

This bright white enamel paper has a high polish, excellent surface smoothness and improved ink affinity. It is ideally adapted to multicolor process as well as black and white halftone reproduction with sharp, true detail across the full range of tone values.

IT PAYS TO ASK FOR — AND USE THESE FINE OXFORD AND OXFORD MIAMI PAPERS

COATED PAPERS	*UNCOATED PAPERS*
Polar Superfine Enamel	Carfax English Finish
Maineflex Enamel	Carfax Super
Maineflex Enamel Cover	Carfax Eggshell
Maineflex Enamel, Coated One Side	Wescar Offset
Mainefold Enamel	Wescar Satin Plate Offset
Mainefold Enamel Cover	Wescar Gloss Plate Offset
North Star Dull Enamel	English Finish Litho
Seal Enamel	Super Litho
Engravatone Coated	Duplex Label
Coated Publication Text	

Nation-wide Service Through Oxford Merchants

Albany, N. Y.	W. H. Smith Paper Corp.
Atlanta, Ga.	Wyant & Sons Paper Co.
Augusta, Maine	Carter, Rice & Co., Corp.
Baltimore, Md.	The Mudge Paper Co.
Bethlehem, Pa.	Wilcox-Walter-Furlong Paper Co.
Boise, Idaho	Blake, Moffitt & Towne
Boston, Mass.	Carter, Rice & Co. Corp. Storrs & Bement Co.
Buffalo, N. Y.	Franklin-Cowan Paper Co.
Charlotte, N. C.	Caskie Paper Co., Inc. The Charlotte Paper Co.
Chattanooga, Tenn.	Bond-Sanders Paper Co.
Chicago, Ill	Bermingham & Prosser Co. Bradner, Smith & Co. Marquette Paper Corporation The Whitaker Paper Co.
Cincinnati, Ohio	The Johnston Paper Co. The Whitaker Paper Co.
Cleveland, Ohio	The Cleveland Paper Co.
Columbus, Ohio	Scioto Paper Co.
Dayton, Ohio	Cincinnati Cordage & Paper Co. The Whitaker Paper Co.
Des Moines, Iowa	Bermingham & Prosser Co.
Detroit, Mich.	Chope Stevens Paper Co.
Fresno, Calif.	Blake, Moffitt & Towne
Hartford, Conn.	Green & Low Paper Co., Inc. Storrs & Bement Co.
Indianapolis, Ind.	MacCollum Paper Co.
Jacksonville, Fla.	Jacksonville Paper Co.
Kalamazoo, Mich.	Bermingham & Prosser Co.
Kansas City, Mo.	Bermingham & Prosser Co.
Knoxville, Tenn.	Louisville Paper Co.
Lincoln, Neb.	Western Newspaper Union
Little Rock, Ark.	Roach Paper Co.
Long Beach, Calif.	Blake, Moffitt & Towne
Los Angeles, Calif.	Blake, Moffitt & Towne
Louisville, Ky.	Louisville Paper Co.
Lynchburg, Va.	Caskie Paper Co., Inc.
Manchester, N. H.	C. H. Robinson Co.
Memphis, Tenn.	Louisville Paper Co.
Miami, Fla.	Everglades Paper Co.
Milwaukee, Wis.	Allman-Christiansen Paper Co. Sensenbrenner Paper Co.
Minneapolis, Minn.	Wilcox-Mosher-Leffholm Co.
Nashville, Tenn.	Bond-Sanders Paper Co.
Newark, N. J.	Bulkley, Dunton & Co., Inc.
New Haven, Conn.	Bulkley, Dunton & Co. *(Div. of Carter, Rice & Co. Corp.)* Storrs & Bement Co.
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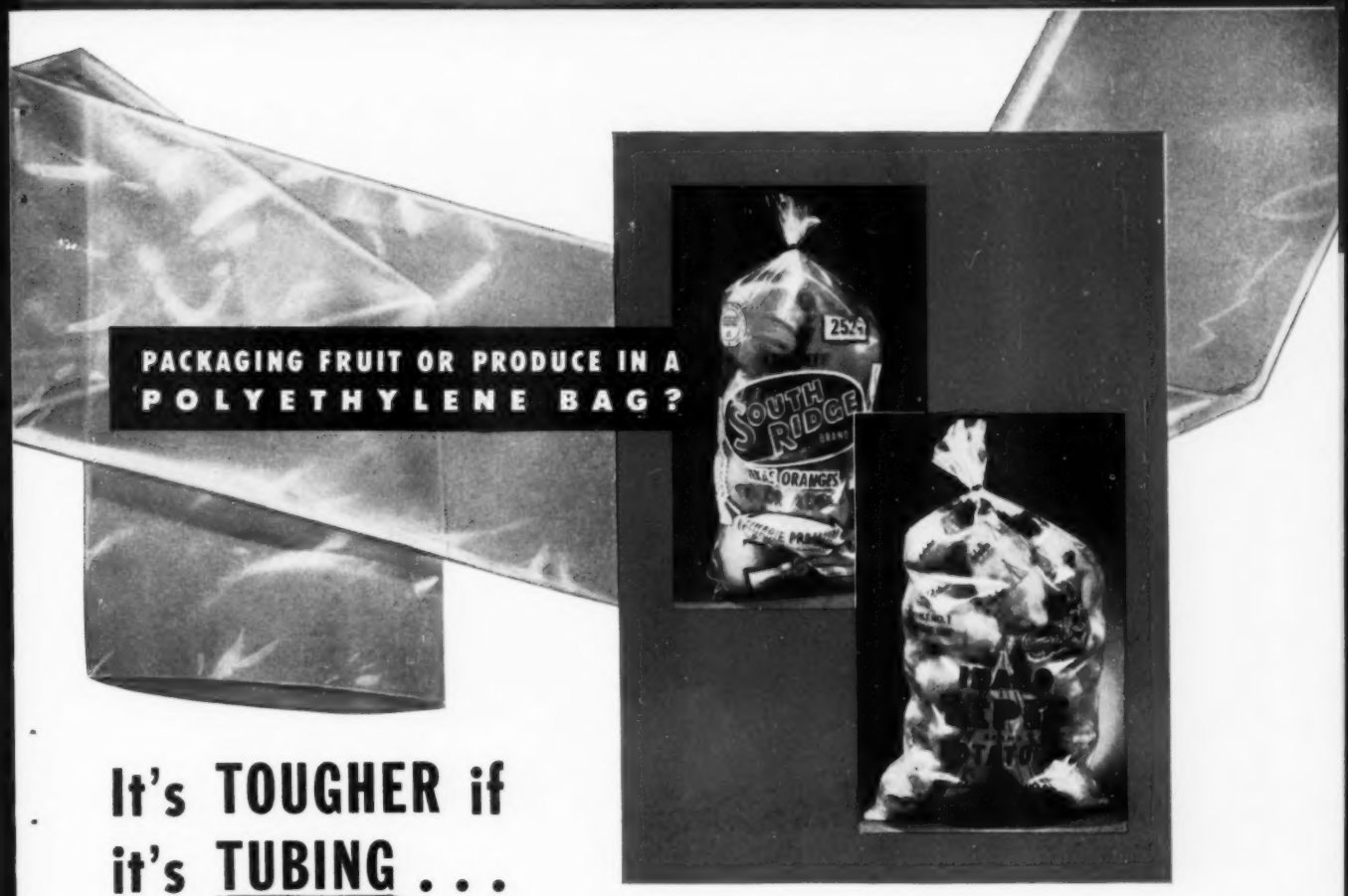
Oakland, Calif.	Blake, Moffitt & Towne
Omaha, Neb.	Western Paper Co.
Philadelphia, Pa.	Atlantic Paper Co. Wilcox-Walter-Furlong Paper Co.
Phoenix, Ariz.	Blake, Moffitt & Towne
Pittsburgh, Pa.	General Paper Co. Brubaker Paper Co.
Portland, Maine	C. H. Robinson Co.
Portland, Oregon	Blake, Moffitt & Towne
Providence, R. I.	Carter, Rice & Co. Corp.
Richmond, Va.	Cauthorne Paper Co.
Rochester, N. Y.	Genesee Valley Paper Co.
Sacramento, Calif.	Blake, Moffitt & Towne
St. Louis, Mo.	Bermingham & Prosser Co. Shaughnessy-Kniep-Hawe Paper Co. Tobey Fine Papers, Inc.
Salt Lake City, Utah	Western Newspaper Union
San Bernardino, Calif.	Blake, Moffitt & Towne
San Diego, Calif.	Blake, Moffitt & Towne
San Francisco, Calif.	Blake, Moffitt & Towne
San Jose, Calif.	Blake, Moffitt & Towne
Seattle, Wash.	Blake, Moffitt & Towne
Sioux City, Iowa	Western Newspaper Union
Spokane, Wash.	Blake, Moffitt & Towne
Springfield, Mass.	Bulkley, Dunton & Co. *(Div. of Carter, Rice & Co. Corp.)* Mill Brand Papers Paper House of New England
Stockton, Calif.	Blake, Moffitt & Towne
Tacoma, Wash.	Blake, Moffitt & Towne
Tampa, Fla.	Tampa Paper Co.
Toledo, Ohio	Paper Merchants, Inc.
Tucson, Ariz.	Blake, Moffitt & Towne
Worcester, Mass.	Esty Div. Carter, Rice & Co. Corp.

OXFORD PAPER COMPANY, *230 Park Avenue, New York 17, N. Y.* ★ OXFORD MIAMI PAPER COMPANY, *35 East Wacker Drive, Chicago 1, Ill.*

Mills at Rumford, Maine, and West Carrollton, Ohio



It's TOUGHER if it's TUBING . . .

and that goes DOUBLE if it's *Durethene!*

A side-splitting performance by a bag of apples, citrus fruit, potatoes or other heavy produce is no laughing matter, if it's *your* product that's spilling all over the grocery floor or rolling around the freight car.

What's more, such performances are entirely unnecessary, if you just take two simple precautions: be sure your polyethylene bags are made from seamless TUBULAR Film—not from sheeting, with makeshift seams . . and be *doubly* sure that the Tubular Film is DURETHENE—the modern-made film that gives you the strongest bags you can get!

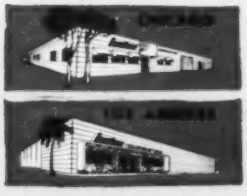
Rigid control at every stage of production insures true-to-gauge uniformity throughout every roll of DURETHENE Polyethylene Film—and *that* means consistent strength, sure sealing, insurance against blocking. In addition, printing *stays put*, without flaking, cracking or rubbing off, with DURETHENE *Permatreated* ION-FILM. It's made by an exclusive process developed after three years of intensive laboratory research.

DURETHENE Tubular Film is available in all widths up to full 40", for plain or gusseted bags, and in all weights —as well as in sheets for wrapped products, in a full range of sizes, weights and colors. We'll be glad to put you in touch with a DURETHENE Converter near you.

Durethene's
"SNAP-IT-SHUT"
Bag and Liner Closure is easiest to seal . . easiest for consumers to open . . will not rust (it's stainless steel). Send for samples.

- **DURETHENE Polyethylene Film is also widely used by major packagers everywhere for consumer-packaging such products as *PRODUCE* ★ *POULTRY* ★ *FROZEN FOODS* ★ *POPCORN* ★ *CANDY* ★ *CHEMICALS* ★ *SOAP* ★ *TEXTILES* ★ *COSMETICS* ★ *LEATHER GOODS* ★ *SPECIALTIES***

We'll be at the Western Packaging Show, Aug. 17, 18, 19-BOOTH 629



Durethene
CORPORATION

Manufacturers of Polyethylene Film for Converters

1859 SOUTH 55TH AVENUE, CHICAGO 50, ILLINOIS • OLYMPIC 2-1600
WEST COAST FACTORY: 5600 W. ARBOR VITAE ST., LOS ANGELES 45, CALIF. • OREGON 8-4969
NEW YORK OFFICE: 175 Fifth Ave., New York 10, N.Y. • ORegon 3-2419.

Sales Offices in Principal Cities

The Right Start for Your New Product: Gaylord Boxes for Safe Shipment

It's an exciting moment in any factory — that moment when the new product is ready for launching.

So good to know at this time that the product is starting out right in containers which guard against damage down the line. Developed with the same care as you give your product, Gaylord Boxes combine proved design with quality board to give you superior protection.

You owe it to yourself—and to your products, new or old—to investigate Gaylord Boxes. Call your nearby sales office.

GAYLORD CONTAINER CORPORATION

SALES OFFICES

Gaylord Boxes

General Offices: ST. LOUIS, MISSOURI

COAST-TO-COAST

CORRUGATED AND SOLID FIBRE BOXES • FOLDING CARTONS • KRAFT PAPER AND SPECIALTIES • KRAFT BAGS AND SACKS

"START

THE

SHOW"

WITH

CELLU-CRAFT

TRANSPARENT PACKAGING SPECIALISTS

CELLU-CRAFT PRODUCTS CORP., *General Offices & Plant* **133-23 35th Avenue, Flushing, N.Y.**

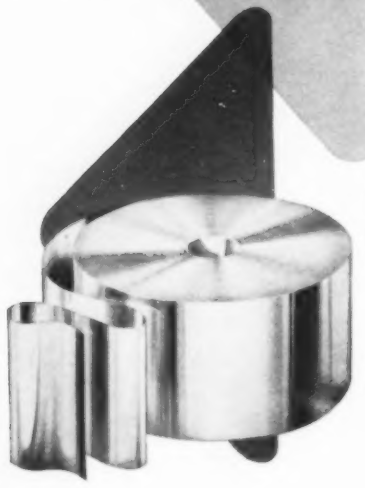
Branch Plant: **Addison, Ill.** *Sales Offices in principal cities.*

Designers, Converters, and Color Printers of Flexible Packaging Materials

CELLOPHANE • POLYETHYLENE • PLIOFILM • FOILS • ACETATE • PLASTIC FILMS • GLASSINE

Against the grey stones blaze the Tudor uniforms of the Yeoman Warders of Her Majesty's Tower of London. Among their duties is the guardianship of the Crown Jewels, normally kept in the Wakefield Tower.

Something to be guarded like Crown Jewels...



With food, candy, tobacco, the flavour and freshness of the product is its reputation. Something to be guarded like Crown Jewels! Venesta aluminium foil guards that reputation. While it keeps the good flavour in, it keeps harm out, and its brightness helps sell as no other wrapping can. Years of experience go into the manufacture of Venesta aluminium foil. Made under conditions of the strictest hygiene, and quality-controlled for purity, gauge and printing, it is *dependable* protection that matches the needs of the highest quality products.

VENESTA ALUMINIUM FOIL

A PRODUCT OF THE PACKAGING DIVISION

VENESTA

Venesta Limited, Vintry House, Queen Street Place, London, E.C.4, England. Cables · Venesta · London

T.A. 5366

Great Ideas of Western Man... ONE OF A SERIES

They that can give up essential liberty
to obtain a little temporary safety
deserve neither liberty nor safety.

(Historical Review of Pennsylvania, 1759)

BENJAMIN FRANKLIN
on freedom
and security

Artist: Sol Mednick

Container Corporation of America

Notes on the short way to "nail" corrugated cartons

Without the "nails"—sealing glue, to you—corrugated cartons couldn't protect your merchandise. And *how* the glue is applied helps determine how well your case will stand up.

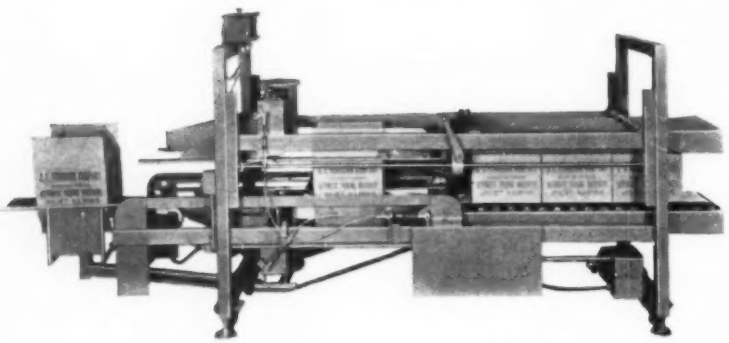
Saves Glue—Stronger Seals The Short Case Sealer applies glue in *spots* at ¾" centers, lets it spread and seep into the fibres momentarily, then makes a fast, tight closure. Spot glue application saves at least one third of glue normally used, gives extra strong seals.

Saves Space—Saves Time The *all new* Packomatic Short Case Sealer ties in with almost any production line because it occupies less than 30 square feet. It's fast too.

Few Moving Parts—Low Maintenance The production and economy of this new Packomatic unit is outstanding. It has fewer moving parts than any other sealer on the market. Moreover, key parts (all easily accessible) are made of brass or stainless steel for ease of cleaning, freedom from rust and corrosion.

Investigate this new, *better*, less expensive machine for "nailing" your corrugated cartons. Send today for illustrated folder on the Packomatic Short Case Sealer.

PACKOMATIC SHORT CASE SEALER—NEW!

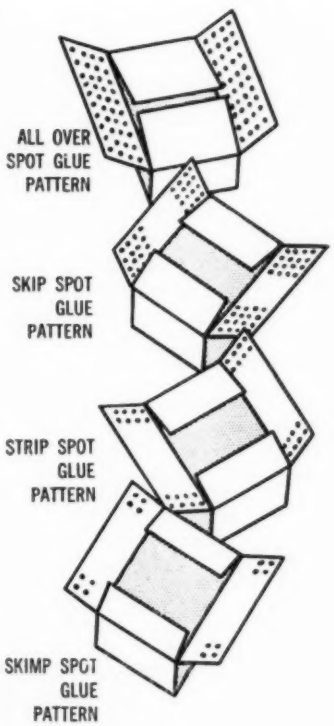


Rapidly adjusts with this size range

Length 8" to 24"
Width 6" to 16"
Height 5" to 18"

Compare Packomatic's sealing speed

12" long cases—8 per minute
24" long cases—4 per minute
Faster units built on order



Applies glue in "safety" spot patterns

Packomatic

J. L. FERGUSON CO., Joliet, Illinois

New York • Chicago • Boston • Cleveland • Denver • Los Angeles
San Francisco • Seattle • Baltimore • New Orleans Tampa • Portland

When you think of color...

Think of TAPE!

Colored tapes that decorate, seal and code—they're available in easy-to-use, versatile "Scotch" Brand Colored Cellophane Tape and other "Scotch" Brand Tapes in bright colors. 12 eye-catching shades, used singly or in combinations, can fill your every colored tape need. Tapes are easy to apply (they stick at a *touch!*) and once on, hold firmly. For complete information, and free test samples, write on your letterhead to Dept. MP-54.

COLORED CELLOPHANE...one of **300** PRESSURE-SENSITIVE TAPES for industry, trademarked...

REG. U.S. PAT. OFF.

SCOTCH BRAND

The term "Scotch" and the plaid design are registered trademarks of Minnesota Mining and Manufacturing Co., St. Paul 6, Minn. General Export: 122 E. 42nd St., New York 17, N. Y. In Canada: London, Ont., Can.

3M COMPANY

LOOK what color can do for you!

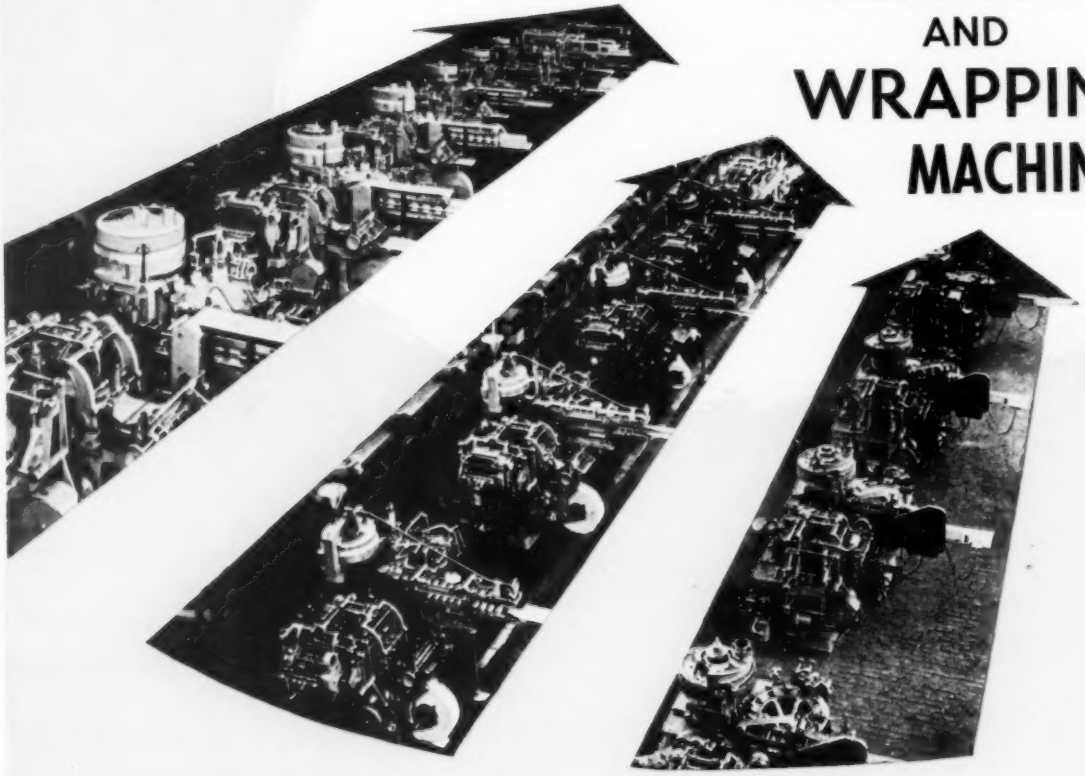
COLOR CODED packages for export shipment. By using various color combinations of "Scotch" Brand Tapes Nos. 600 or 700, destinations are clearly marked in the universal language of *color*.

DECORATIVE, and functional as well! The short strips of "Scotch" Brand Cellophane Tape No. 600 that hold the clear plastic lid in place also add attractive color highlights to the container when it's on dealers' shelves.

BOOST SALES with printed tapes. Use them at point-of-sale; to give instructions; suggest related products. An ideal way to combine packages for special "deals" and include a selling message as well.

BANDING combination "deals" is quick and easy with "Scotch" Brand Tapes. And you can select colors to match or contrast; even get them printed with special sales messages.

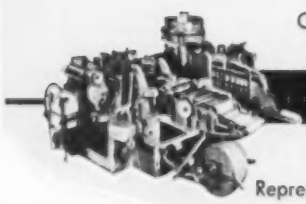
HESSER - *Automatic* PACKAGING AND WRAPPING MACHINES



- **Packaging machines**
- **Bag filling and closing machines**
- **Bundlers**
- **Printing and punching automatics**
- **Individual weighers and wrappers**

We manufacture over 100 different models. Ask us what we can do *for You*

Complete technical information available on request.



FR. HESSER MACHINE BUILDERS A.-G.
STUTTGART - BAD CANNSTATT · GERMANY

Represented in **U.S.A.** by:

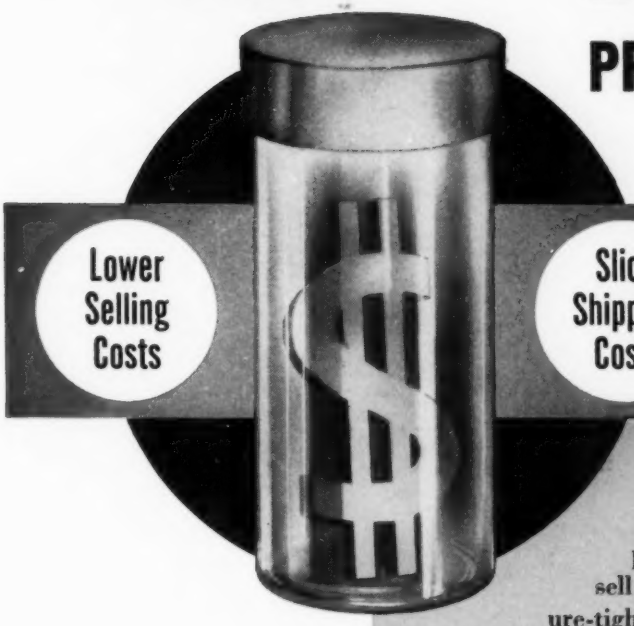
GEVEKE & COMPANY, INC.
25 Broadway, New York 4, N. Y.

in **CANADA: Packaging Equipment** Service, Limited
124 Willowdale Street - Willowdale, Ontario

Clearsite*

PLASTIC CONTAINERS

are proven PROFIT-PRODUCERS



Lower Selling Costs

Slice Shipping Costs

Save Breakage Costs

Cut Packaging Costs

Clearsite Plastic Containers are show windows that glamorize your product, protect it while on display, sell more of it every day. They are moisture-tight, feather-light, shatter-proof. One-fifth the weight of glass, Clearsite cuts shipping costs and boosts profits. Any lettering, design or trade-mark can be permanently printed in any colors right on the container. Available in a wide range of sizes and adaptable to many kinds of closures. Special sizes also made to your specifications.

Write for Literature Today!

Clearsite* displays it RIGHT

*Registered Trade Mark

CELLUPLASTIC CORPORATION

GENERAL OFFICES: 50 AVENUE L., NEWARK 5, N. J.

Portable Protection...

a Case for U. S. Royalite!

Cutlery, tote boxes, ampoules, ointment tubes, salesbooks... a completely unrelated group of items, *but* they all had to be packaged to go somewhere, usually in a hurry, and arrive in perfect condition. This was the problem confronting the Fabri-Kal Corporation of Kalamazoo! They needed a material to fit every case and insure full protection, yet be easy and economical to work with. Fabri-Kal was sure—here was a case for U. S. Royalite!

This tough thermoplastic proved itself more than equal to every need. For cutlery, a strong display package that would attract the eye at point-of-sale and be a serviceable case that would wear well and be a handsome addition to a home.

Medical ampoules and tubes, so fragile to handle, were fitted securely in strong formed inserts of U. S. Royalite that held them firmly in a snap-grip fit. And salesbooks, carried from place to place, always in use, found U. S. Royalite's durability and appearance far superior to any other material. U.S. Royalite was the one answer Fabri-Kal found to its problems. Why not let it serve you, too? For complete information, write to the address below.

U.S. ROYALITE®
TOUGH PLASTIC PRODUCTS

US RUBBER

UNITED STATES RUBBER COMPANY
ROCKEFELLER CENTER · NEW YORK

NEW KRAFT MILL AT ROME, GEORGIA, ASSURES DEPENDABLE PAPERBOARD SUPPLY

The demand for paperboard is growing with amazing speed. New uses are being developed almost daily. Paperboard consumption (exclusive of building board) has increased at an average annual rate of about 450,000 tons, or over 50%, in the past 10 years. If the present rate of growth continues, a like increase can be expected in only eight more years.

To help meet your growing demand for this versatile product in its many forms, a huge new kraft mill is being completed at Rome, Ga. This plant, equipped with the latest improvements, will start operating in the near future and will more than double our available kraft supply.

As time goes on, it will be increasingly important for you as a fabricator of corrugated containers to have a source of supply for all of your paperboard requirements.

Mead .009 Chestnut Corrugating Medium, made of chestnut and other hardwood fibers, combined with Mead Kraft Liner results in a modern packaging material that provides lightweight containers with ample rigidity for safe shipment.

MEAD
board

Mead Board is a standard product of

THE MEAD CORPORATION

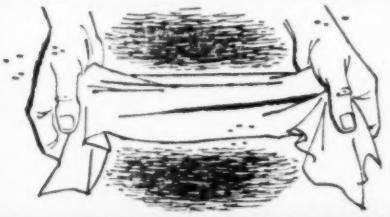
and is sold direct by

Mead Board Sales, Inc.

3347 Madison Road, Cincinnati 9, Ohio

6124 No. Milwaukee Ave., Chicago 30, Ill. • 10 Commerce Court, Newark 2, N. J. • 18045 James Couzens Highway, Detroit 35, Mich. • 43 Leon Street, Boston 10, Mass. River Road, Lynchburg, Va.

It's Strong!



Wet or dry, West Carrollton Genuine Vegetable Parchment gives protection for moist foods. This is one of the many reasons why leading moist food packers prefer West Carrollton.

Protect *your* product with this pure vegetable parchment that is Odorless, Tasteless, Insoluble, Grease-resistant and Strong (wet or dry). We're ready to design and print exactly the wrapper *you* need, in attractive colors, using special inks. Write us.

West Carrollton
GENUINE VEGETABLE
Parchment

- DRY WAXED PARCHMENT
- BUTTER WRAPPERS
- BUTTER TUB LINERS & CIRCLES
- BUTTER BOX LINERS
- BAKERY PAN LINERS
- MILK & ICE CREAM CAN TOPS
- SLICED BACON WRAPPERS
- VEGETABLE SHORTENING CARTON LINERS
- LARD CARTON LINERS
- FRESH FILLET WRAPPERS & INSERTS
- CELERY WRAPPERS
- MEAT WRAPPERS
- LINERS FOR MEAT TINS
- POULTRY WRAPPERS
- CHEESE WRAPPERS
- TAMALE WRAPPERS
- RELEASE PARCHMENT
- TRIP-L-WRAP SMOKED MEAT WRAPPERS
- MARGARINE WRAPPERS
- **MANY OTHERS**

WEST CARROLLTON PARCHMENT COMPANY

WEST CARROLLTON, OHIO

SALES OFFICES: New York, 99 Hudson St. • Chicago, 400 West Madison St.

Stop the Eye...Start the Sale...

You've just made a sale. Her eye was caught by *your* product in its distinctive *blue* bottle and she's going to buy.

That's not strange. Maryland Blue is a powerful salesman. It stops the eye in the store . . . invites use in window and counter displays . . . acts as a constant reminder in the home. It imparts to your product the integrity and quality that has been associated with blue through the centuries.

See for yourself why leading firms utilize Maryland Blue's rich color as an advertising, merchandising, and selling tool. Write for samples today. No obligation, of course.

MARYLAND GLASS CORPORATION, Baltimore 30, Maryland.

Pack to attract in Maryland Blue

Also available in clear glass

Something New!

Steigerwald GOLD and SILVER

EMBOSSED FOIL SEALS

ON PRESSURE SENSITIVE STOCK

World's fastest hand labeling operation

It's worth a phone call or letter today...

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	CHerry 1-2468	70133	WAbash 1257

MEMPHIS	MINNEAPOLIS	NEW YORK, N. Y.	OAKLAND	ST. LOUIS
Edward Magnus	J. F. and J. L. Moar	Jann H. McLaren	Jean S. Paulen	Marvin Yates Company
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910 W. VAN BUREN ST. · CHICAGO 7, ILLINOIS

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Just pick them off and press them on. Stick to all surfaces—Hold securely where others fail.

Remove easily—No water—No Glue—No Cleanup.

Labelsmiths

labels all kinds all types complete service

Cookie box that needs no inner liner or overwrap

It has a moisture-resistant coating of Du Pont ALATHON* polyethylene resin

Plezall Scotch cookies must be protected from moisture to insure their tasty crispness. While a conventional cookie box with overwrap and inner liner provided adequate protection for this product, the packager decided to investigate ways and means to reduce further his packaging costs and increase the product's shelf life.

The answer to this problem was found in a .020" boxboard carton with a coating of "Alathon" polyethylene resin on the inside. Tests proved the coating of "Alathon" more moisture-resistant than an overwrap. Since "Alathon" also resists greases and oils, the coating made both the overwrap *and* inner liner previously used unnecessary. Mr. E. C. Gueroult, Pres. of Plezall Cookie Co., Chicago, sums up the prime economies this way: (1) no overwrap inventory, (2) no overwrap labor, (3) no overwrap machinery, (4) no inner-liner inventory and (5) no inner-liner labor. Another point is that the coating of "Alathon" helps give the cookies the longer shelf life so important for baked goods.

Study the properties of Du Pont "Alathon" in relation to *your* packaging needs. "Alathon" is strong, stays tough and flexible through a wide range of temperatures—from tropic heat to 100°F. below zero. It is tasteless, odorless and nontoxic . . . resists most greases, acids, oils and alkalies. For more information, fill in and mail the coupon below.

*REG. U.S. PAT. OFF.

DU PONT
ALATHON
Polyethylene Resin
BETTER THINGS FOR BETTER LIVING
. . . THROUGH CHEMISTRY

Which type of package are you interested in?

- ☐ Multi-wall bags
- ☐ Single-ply bags
- ☐ Pouch bags
- ☐ Board cartons
- ☐ Board trays
- ☐ Fiber drums
- ☐ Corrugated boxes
- ☐ Fiberboard containers

E. I. du Pont de Nemours & Co. (Inc.)
Polychemicals Dept. 515, Du Pont Bldg.
Wilmington 98, Delaware

Please send me information on the properties and advantages of "Alathon" polyethylene resin for the type(s) of packages I have indicated.

*Name*_____

*Title*_____

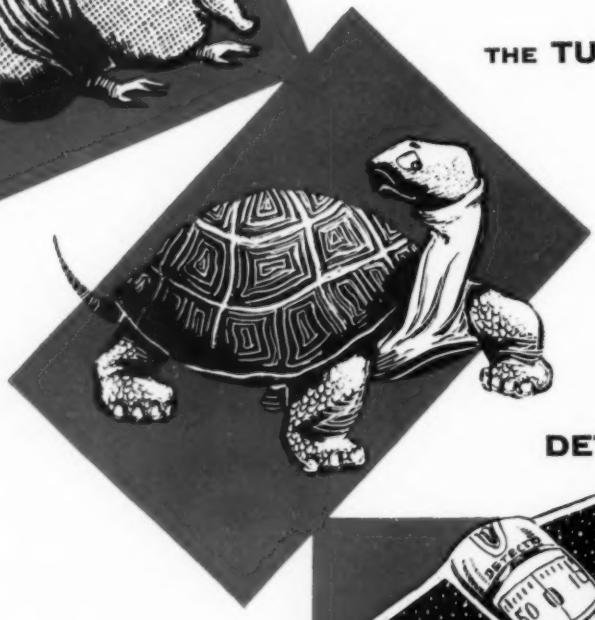
*Company*_____

*Address*_____

*City*_____ *State*_____

THE **ARMADILLO**

THE **TURTLE**



AND THE

DETECTO SCALE...

ALL HAVE IT PERFECTLY!

Protective packaging
and simple recognition...
a natural in the turtle and armadillo.

Naturally, to protect
the intricate mechanism and identify
America's most famous bathroom scale...
Detecto chose Grand-City.

Chosen daily by consumers everywhere, are
Detecto Scales displayed in cartons that
incorporate protection and buy-appeal!

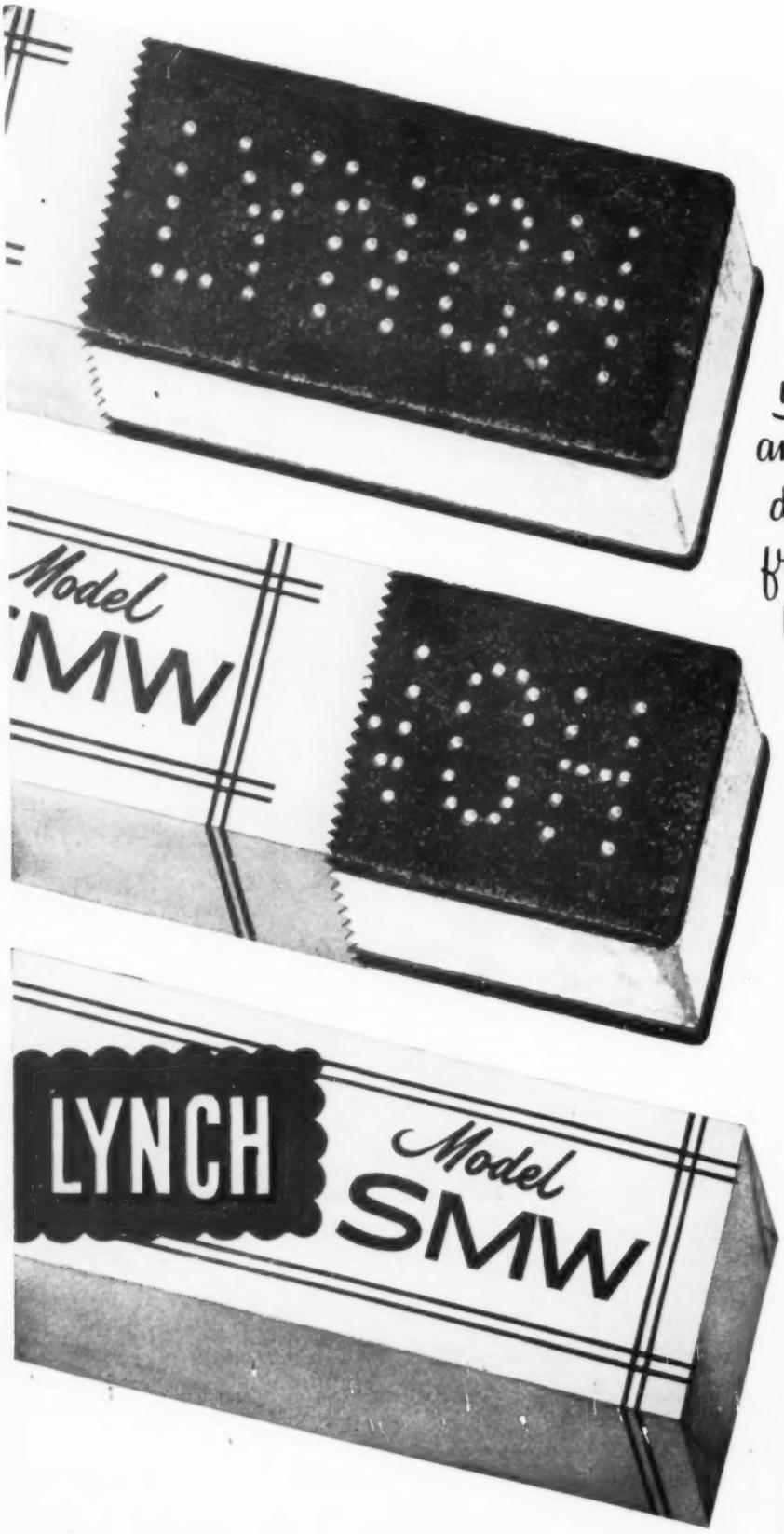
Variety of overall designs in several colors available in minimum quantities

40 years of packaging America's foremost products.

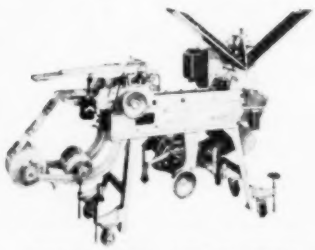
GRAND-CITY CONTAINER CORPORATION

2001 TONNELLE AVENUE, NORTH BERGEN, N. J.

LONGACRE 4-1515 · UNION 5-4400



NOW
you can make
and wrap these
direct from the
freezer – up to
100 per minute!



THE LYNCH MODEL SMW

Write to Dept. M for the new
Model SMW Folder

LYNCH
CORPORATION

PACKAGING MACHINES
ANDERSON, INDIANA

Branches: New York • Toledo • Chicago • San Francisco • Los Angeles
Dallas • Toronto — Export Dept.: 13 East 40th St., New York 16, N. Y.
Cables: ARLAB

"SHOW"manship SELLS for you!

THIS INSERT LITHOGRAPHED BY MILPRINT, INC.

WITH Milprint LITHOGRAPHED WINDOW CARTONS

Got a product that looks good enough to eat? Then show it—*and sell it*—with Milprint lithographed window cartons! Milprint window cartons showcase your product behind a sparkling Cellophane or acetate window . . . surround it with rich color and attractive precision printing . . . furnish the compelling eye-appeal that turns more prospects into purchasers!

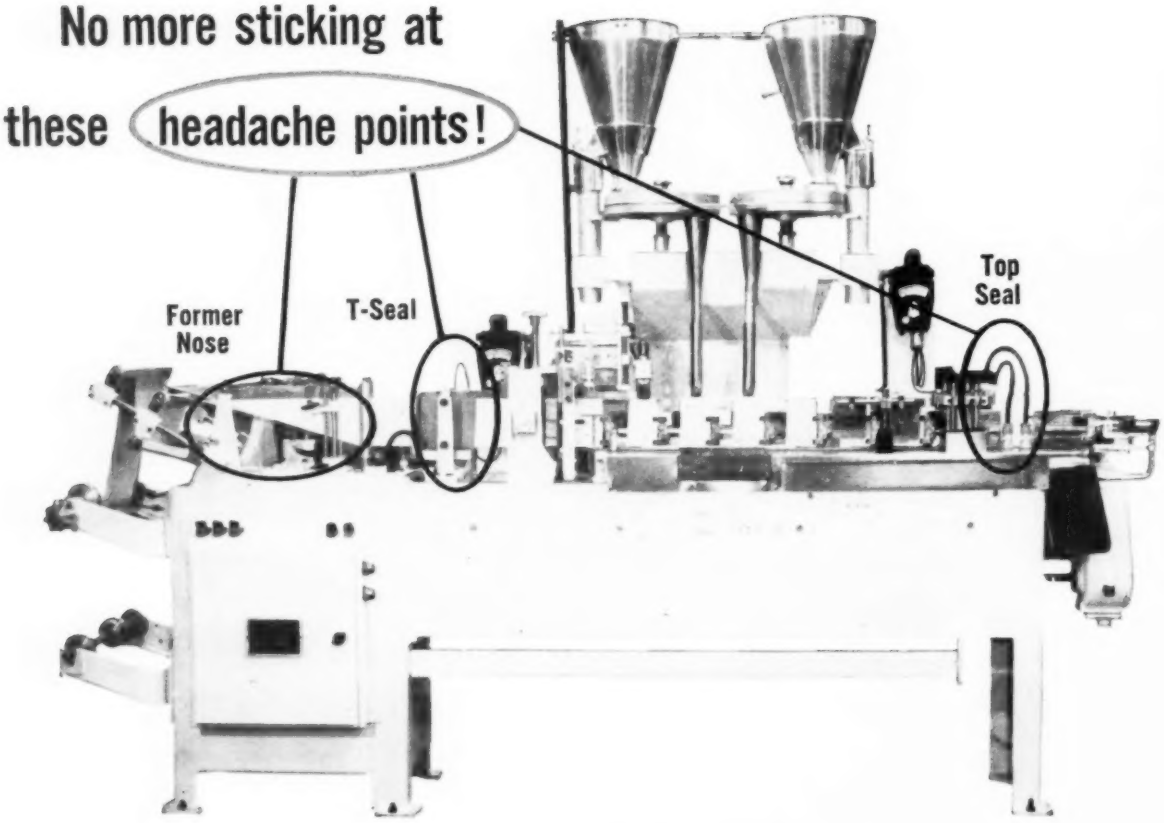
Call on Milprint for *all* your lithography, packaging, displays or printed promotional material. And remember Milprint, the company that *originated* the window carton, offers the widest variety of packaging materials and printing processes available anywhere.

Want packaging and displays that show 'em and sell 'em?
Call your Milprint man—*first!*

Milprint INC
PACKAGING MATERIALS
LITHOGRAPHY & PRINTING

GENERAL OFFICES, MILWAUKEE, WISCONSIN
SALES OFFICES IN PRINCIPAL CITIES

Printed Cellophane, Pliofilm, Polyethylene, Saran, Acetate, Glassine, Foils, Folding Cartons, Bags, Lithographed Displays, Printed Promotional Material



Glass fabrics coated with Du Pont TEFLON®

tetrafluoroethylene resin

assure trouble-free heat sealing

WHEN build-up of package coatings causes heat-sealing bars to stick on a machine that forms, fills, and seals thousands of packages a day, an entire production line is blocked while you clear away the tie-up. One of the easiest ways to avoid the headaches that sticking bars can cause is to cover them with Du Pont "Teflon" tetrafluoroethylene resin coated glass fabrics. It's easy to clamp or lace a "Teflon" covering on sealing surfaces . . . and each quick installation will assure you of 3 to 4 days of trouble-free operation. Losses due to downtime for cleaning the sealing surfaces, production halts, and improperly formed seals are cut to a minimum as your line rolls smoothly and efficiently.

"Teflon" coated glass fabrics boast a unique combination of properties that make them well fitted for this type of service. They are anti-adhesive and will not stick, resist heat and abrasion, are dimensionally stable, tough and sturdy. There are many packaging uses for these unusual fabrics. In sealing odd shapes—as in wrapping produce and meats—a cover of "Teflon" on hand-iron sealing elements keeps your output at its peak, besides eliminating the need to take time for cleaning the surfaces of the iron.

Ask us for complete information on how you can adapt "Teflon" coated glass fabrics to your own specific needs. For full data and samples, write to E. I. du Pont de Nemours & Co. (Inc.), Fabrics Division, Empire State Bldg., New York 1, N. Y.

Glass Fabrics Coated with

DU PONT

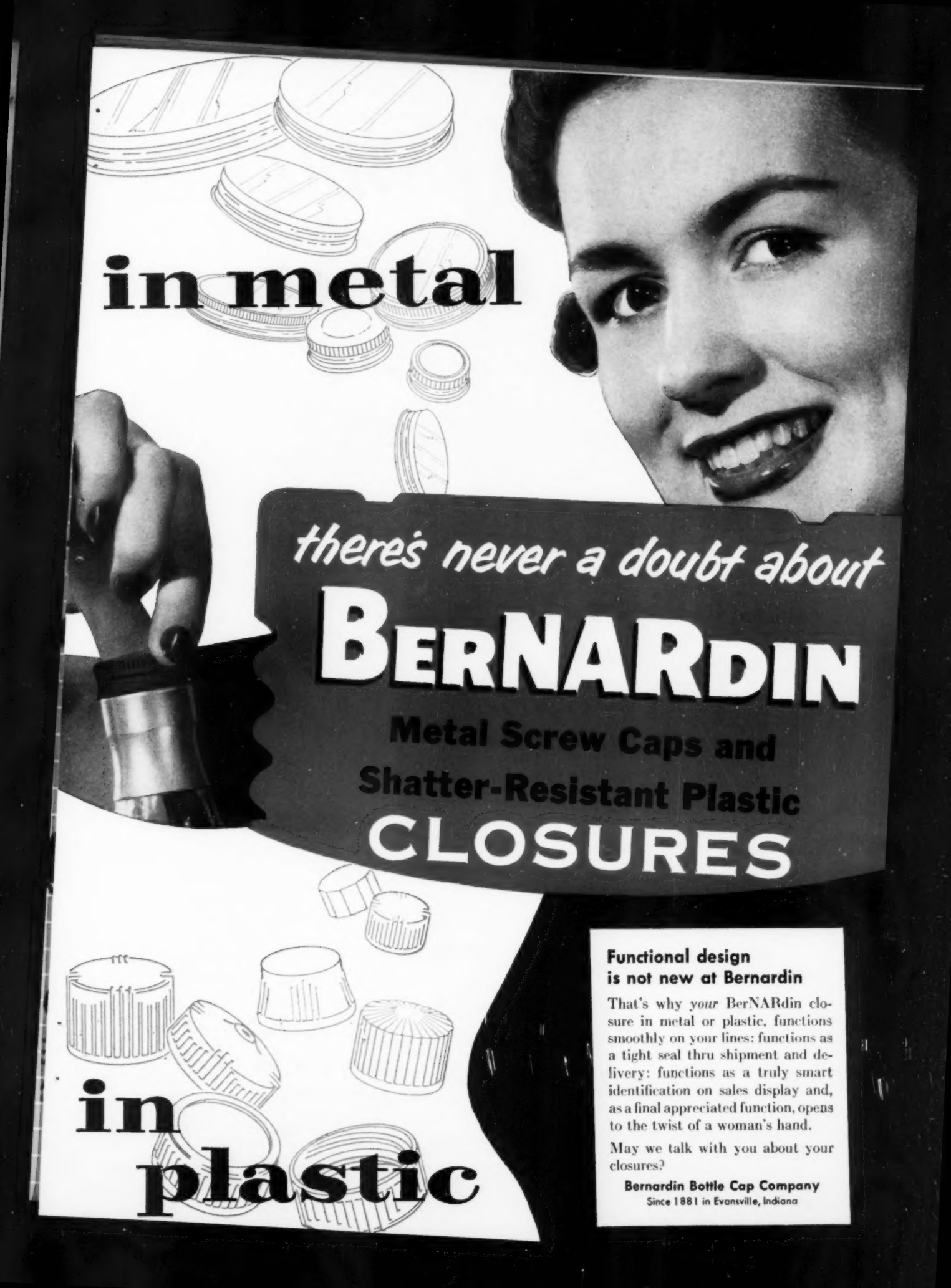
TEFLON

tetrafluoroethylene resin

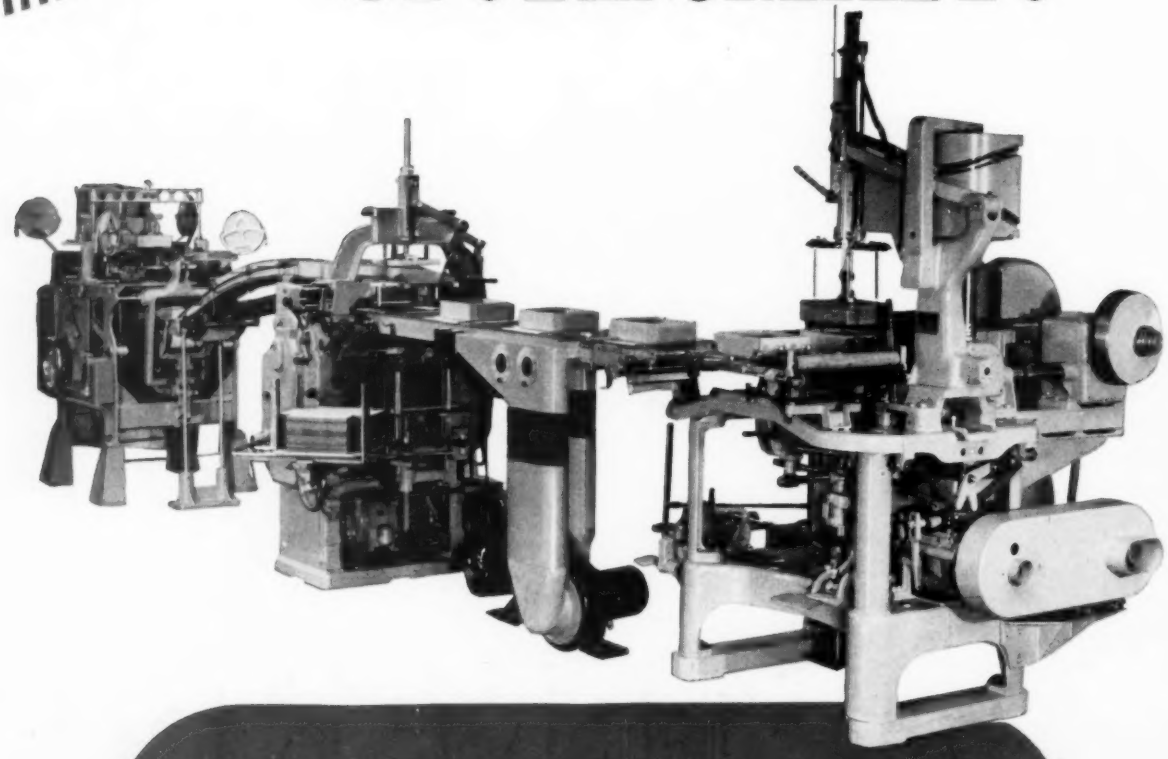
Product of Fabrics Division

DU PONT

BETTER THINGS FOR BETTER LIVING . . . THROUGH CHEMISTRY


in metal
there's never a doubt about
BERNARDIN
Metal Screw Caps and
Shatter-Resistant Plastic
CLOSURES
in plastic
Functional design
is not new at Bernardin
That's why your BerNARdin closure in metal or plastic, functions smoothly on your lines: functions as a tight seal thru shipment and delivery: functions as a truly smart identification on sales display and, as a final appreciated function, opens to the twist of a woman's hand.
May we talk with you about your closures?
Bernardin Bottle Cap Company
Since 1881 in Evansville, Indiana

Introducing "STOKESMATIC"



THE S&S COMPLETELY AUTOMATIC PAPER BOX MACHINE

Stokes & Smith enthusiastically introduces to the Paper Box Industry THE NEW Completely Automatic "STOKESMATIC".

This revolutionary unit automatically glues labels and registers boxes on the labels up to 40 boxes per minute, operating with an LS Quad Stayer and a standard STOKESFEED Wrapping Unit. It produces up to 40 wrapped boxes per minute completely automatically without any operator.

Now, you can really cut operating costs and increase profit margins with completely automatic staying, gluing, box registering, feeding and wrapping with minimum set-up time.

Your present STOKESFEED can be readily converted to a completely automatic Paper Box Unit by the addition of the Model "501" Gluing and Registering Unit.

LET US DEMONSTRATE *this new unit in actual production so you can see for yourself its outstanding performance. Write, wire or phone for further information TODAY.*

STOKES & SMITH CO.

FRANKFORD, PHILADELPHIA 24, PA.

Pacific Coast: SIMPLEX PACKAGING MACHINERY, INC., 534 - 23rd AVE., OAKLAND 6, CALIF.

fmc

SUBSIDIARY OF FOOD MACHINERY AND CHEMICAL CORPORATION

TRADE MARK

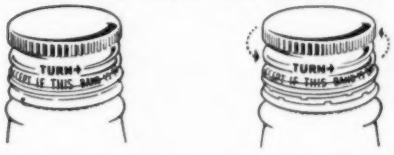
Seal your reputation in 400 bottles per minute with Alcoa Pilferproofs

You can cap, seal and protect up to 400 bottles per minute! Alcoa's exclusive tailor-made process rolls on closure threads to match the glass—automatically.

And what closures they are! The patented Alcoa® Pilferproof hugs the bottle threads to provide positive, leakproof sealing—yet twists on and off smoothly. The telltale slotted band cannot be rejoined to the cap, once broken. It discourages tampering, builds customer confidence, protects your reputation.

For full information on Pilferproof and other Alcoa Closures, just call your local Alcoa sales office, listed under "Aluminum" in your classified phone directory. Or write for free catalog. ALUMINUM COMPANY OF AMERICA, 1705-E Alcoa Building, Pittsburgh 19, Pennsylvania.

HERE'S HOW ALCOA PILFERPROOF CLOSURES REVEAL TAMPERING



The rolled-on locking ring joined to the cap shows that the Alcoa Pilferproof has never been opened.

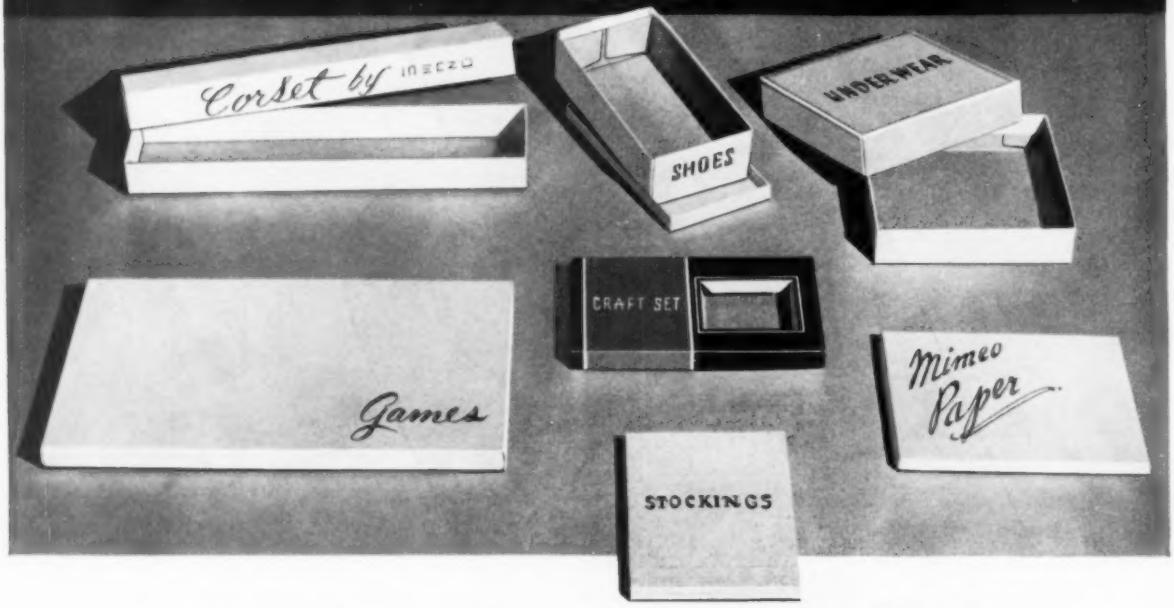
Cap, when removed, breaks away from locking ring—gives permanent evidence of tampering.

ALCOA CLOSURES

ALUMINUM COMPANY OF AMERICA

ALCOA ON TV brings the world to your armchair with "SEE IT NOW" featuring Edward R. Murrow, Tuesday evenings on most CBS-TV stations.

the choice is US



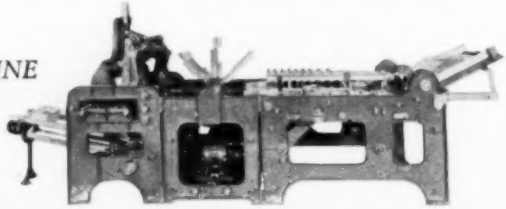
Leading manufacturers of these Products Choose the Universal Brightwood Box Machine for Boxes with the Ultimate in Strength and Appearance

The boxes illustrated show the diversity of sizes and types that are being produced on the Model UN Brightwood. It produces turned-over end boxes from flat blanks, either double sidewalled or lined, and is the only machine capable of making these types of boxes in the wide size range from 6" long, 3" wide and ¾" deep to 21" long, 12" wide and 5¾" deep.

The Model UN is functionally designed and built to employ high pressures. As a result, it produces solidly glued, beautifully squared boxes at speeds up to 70 per minute!

For complete information, write **US** today.

THE UNIVERSAL BRIGHTWOOD BOX MACHINE



U. S. AUTOMATIC BOX MACHINERY CO., INC.

Owning and Operating NATIONAL PACKAGING MACHINERY CO. ★ CARTONING MACHINERY CORP.

122 ARBORETUM ROAD, ROSLINDALE, BOSTON 31, MASS.

Branch Offices: New York ★ Chicago

PACKAGING MACHINERY MANUFACTURERS INSTITUTE PMMI MEMBER

The Imperial Knife Company uses these Dennison-designed boxes to help sell their fine knives.

You can see why! The "Jackmaster" knife box is an excellent example of Dennison versatility in design. It's a compact storage unit . . . or the retailer can use the hinged base and make it into a tilted display tray. What's more, each individual compartment is a complete take-home gift package.

The steak knife set is packaged in its own display piece. The die-cut window on the cover gives the shopper a good look at the merchandise. Smart wood-grain paper enhances the beauty of the knife handles. A protective holder keeps the knives at a uniform slant . . . prevents them from rubbing against each other.

Dennison packaging for your product will help you build sales and good will. It will look right — and it will be priced right. To find out what Dennison packaging experts can do for your product, call the nearest Dennison Sales Office or write direct to Dennison Manufacturing Company, Box Division, Marlboro, Massachusetts.

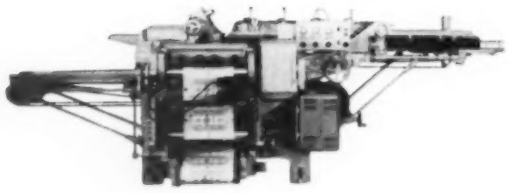
LOOK TO

Dennison

FOR PACKAGING THAT REFLECTS THE PERSONALITY OF YOUR PRODUCT

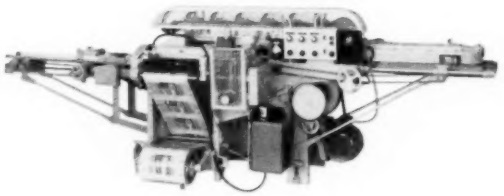
BATTLE CREEK *packaging equipment*

. . . gives you the cost cutting performance of Continuous Flow design



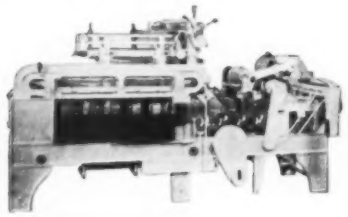
The MODEL 46

A wrapping machine incorporating "Continuous Flow" design for the efficient handling of closed cartons or open top trays, in the speed range of 40 to 100 packages per minute. Features quick adjustability, with size changes handled in not more than 10 minutes. Range: length, 4½" to 10¾"; width, 2½" to 6"; height, 1" to 3". Handles self sealing Cellophane, foil, or waxed papers, in economical roll form. Ideal for frozen foods, bakery products, or merchandise of all natures in boxes or trays.



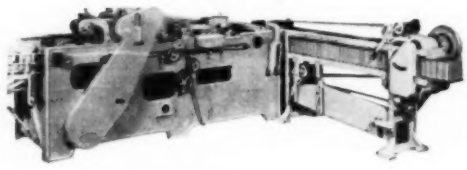
The MODEL 51

The superiority of "Continuous Flow" design is particularly evident in the effortless performance and quiet operation of the super-speed Model 51, which produces up to 160 perfectly wrapped packages per minute. Handles self sealing Cellophane, wax coated papers, Tyton, Reyseal, etc., in economical roll form. Quickly convertible to sizes within following range; — length, 3⅝" to 5¼"; width, 2¾" to 4"; height, ¾" to 2". Particularly recommended for frozen food packages.



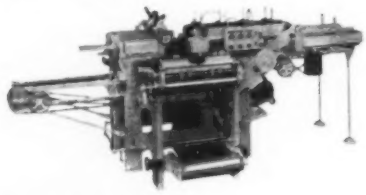
The MODEL 700

Another "Continuous Flow" design for automatically forming lined cartons (using wax coated papers or papers requiring glue for sealing) delivering a lined carton ready for filling, at speeds up to 120 packages per minute. Particularly suited to mass merchandising of cereals, baby food, flour mixes, and similar food packages.



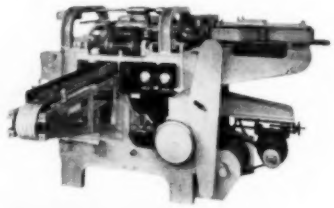
The MODEL 750

A companion "Continuous Flow" machine to the Model 700, for creating a sealed inner bag and glued outside carton, after filling, for speeds of 100 to 120 per minute. Synchronized controls allow the two machines to work in harmony for top production.



The MODEL 47

The "Continuous Flow" principles built into this wrapping machine provide speeds up to 80 per minute on larger cartons or open top trays. Note the wide range of package sizes handled, viz: — length, 5½" to 12½"; width, 2" to 7½"; height, 2" to 4½". Handles self-sealing overwraps in roll form. Particularly suited for handling the larger cartons and trays, with quick adjustability (8-10 minutes) from one size to another.



The MODEL FW-35

A low cost "Continuous Flow" machine for overwrapping small package sizes, at speeds of 40 to 100 per minute. Simplicity of design, low initial cost and upkeep, and easy convertibility from one size to another feature this popular model. Handles open top trays or closed cartons within following range; length, 2" to 10"; width, 1½" to 5"; height, ¾" to 2½". Handles self-sealing foils, wax coated papers, or Cellophane, in roll form.

These BATTLE CREEK machines may be automatically fed from previous conveyors. Write for complete information on the BATTLE CREEK machine that fits into your production.

BATTLE CREEK BREAD WRAPPING MACHINE CO., Battle Creek, Michigan, U.S.A.

CANADIAN REPRESENTATIVE: Packaging Equipment Service Ltd., Willowdale, Ontario

Celanese* Polyethylene

Fits like a Glove

on Textile Products

Polyethylene can be trusted to solve all the packaging musts for manufacturers of textile products. This brilliantly performing material brings simplicity and economy to complex packaging problems.

Celanese Polyethylene Film—now perfected for packaging—has excellent strength and tear resistance... It ages well, giving long shelf life and long product protection. It has a "feels good" surface that can be easily processed for multi-color printing.

If your product is bulky, free-shaped, or conglomerate, Celanese Polyethylene can provide you a consumer-conscious package with every feature you need. Write for information to Celanese Corporation of America, Film Department 108-E, 290 Ferry Street, Newark 5, New Jersey.

Canadian affiliate, Canadian Chemical Company, Ltd., Montreal and Toronto.

Celanese*

PACKAGING FILMS

*Reg. U. S. Pat. Off.

How to Grow Like Joe

JOE'S ANSWER TO COMPETITION is aluminum foil packages that give *extra* protection to his product—thus permit distribution over greater distances to *profitable new markets.*

If *you* want to step ahead of competition, as more and more progressive meat packers are doing, package your product in aluminum foil which provides all these advantages:

FLAVOR PROTECTION—Aluminum foil is non-porous, seals in flavor, seals out damaging air and moisture. Reflects heat and light. Imparts no flavor. Prolongs shelf life.

SALES APPEAL—Eye-catching aluminum foil gets attention for your product on the shelf or in the refrigerated case. Makes your product more desirable to customers, because it reflects the quality it protects!

PRODUCTION VERSATILITY—Foil is pliable, easy to handle, easy to print on. Takes economical and reliable heat seal. Can be printed, colored, coated, embossed, combined with other materials. Superior cold transfer characteristics for frozen foods.

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CHOCOLATE
Kremox
Vanilla Creme filled
COOKIES
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CHOCOLATE
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MODERN PACKAGING

May 1954, Vol. 27, No. 9

The self-selection department store

New selling method sweeping the field is forcing big stores to package almost everything in transparent film

Call it self selection, simplified selling, robot retailing or whatever you like (department stores are sidestepping the term "self service")—the fact remains that the basic selling concept of the supermarket is spreading like wildfire to the great dry-goods emporia of the land.

Retailers whose profit depends on volume can no longer ignore it. And every department-store shopper who has had to wait an eternity to make a simple little purchase—first to get the attention of a sales clerk, then to have the purchase wrapped and the sale laboriously recorded on the multiple forms in the salesperson's book—will rejoice at the passing of merchandising methods that harken back to 1900.

What really started things off in the

IN-STORE PHOTOS COURTESY HEARN DEPARTMENT STORES, INC.

CASH-WRAP DESK is check-out counter of department store. But here operation is slowed because some of the items are not pre-packaged. Some department stores now package everything they sell.

TIERED FIXTURES are replacing old-fashioned counters. There are no clerks, only "attendants" who keep stock in order and answer customer questions. Imagine the tangle of garments and labor cost of refolding after heavy shopping without neat, protective cellophane wraps.

dry-goods field was the announcement last fall that New York's oldest department store, Hearn's, founded in 1827 and one of the largest in volume (more than $25 million annually) had inaugurated the most completely self-selection department-store operation in the country.

Hearn's, of course, was not the first move toward self selection, but it was one of the most dramatic and most all-out. In only slightly lesser degree, similar techniques have been in operation for more than a year at Bamberger's in Newark, N. J. Sears, Roebuck and Montgomery & Ward retail stores as well as J. C. Penney have been well on the way to self selection for some time.

Wanamaker's in Philadelphia has half a dozen departments on self selection. Bloomingdale's in New York has a self-selection hardware section, and Abraham Strauss in Brooklyn and Weiboldt in Chicago are experimenting with the principle. Macy's toy department looked like a supermarket last Christmas—complete with push carts and check-out counters. Self-selection areas have been installed at Shillito's in Cincinnati, J. L. Hudson in Detroit and Gimbel stores in various locations. In Boston, Filene's has gone a step further, using vending machines for small items.

With this booming trend, the package, more than ever, becomes the basic selling instrument and there is a stampede to package effectively, the like of which has never been seen before in this field.

Stores that only a few years ago told progressive hosiery manufacturers, "We can't sell pre-sealed nylons from samples," or wouldn't listen to the advantages of pre-packaged blouses and sport shirts, are now so eager to have everything packaged—from bedroom slippers to brassieres—that they are setting up their own packaging equipment right on the premises to do transparent packaging.

Suddenly—as though it were an entirely new idea—stores are beginning to wonder why more of this packaging is not being done at the manufacturer level!

"It would be just as easy to put three pairs of stockings, six handkerchiefs or a couple of sheets in a package before the merchandise is shipped—and it could be done less expensively at that point," says one prominent store executive.

That is pretty naive thinking to those foresighted manufacturers who have been preaching this kind of packaging for years only to have been thwarted in their efforts because department stores couldn't see the point.

Buyers didn't want to pay for packaging when it would cause a reduced mark-up in their departments. Today, mounting operating costs and the shortage of adequate sales help are forcing them to the full-scale use of self selection. And, as experienced packagers knew all along, increased volume and lower selling costs bring a bigger net even at lower unit mark-up.

A new generation is growing up that has learned to like the supermarket method of shopping. Shoppers today like to wait on themselves; they want to shop quickly and they like to make selections without being constantly trailed by a salesperson. And they are buying more and more packaged soft goods right in the supermarket—a competitive situation the department stores don't like.

That is why department stores are taking on a new look. Old-time counters are being ripped out and replaced by what are known as "tiered" fixtures. Clerks are becoming known as "attendants," who make no sales—only keep stock in order and answer customer questions. Shoppers take their selections to check-out counters for purchase.

Packaging becomes fundamental to this new way of doing business and now it's the manufacturers who must hurry to keep up with the rush to get everything into neatly packaged units.

In setting up their in-store transparent-packaging facilities, stores are

discovering many new techniques and principles in packaging for this new direction to self-service selling.

All indications are that in the next few years department stores will be one of the biggest new outlets for transparent packaging. Significant of this anticipated growth is the recent announcement that one cellophane supplier, which has been active in this field, expects to double capacity in the next few years.

No better medium than the flexible transparent wrap or bag has been found so far for protecting soft goods in open display in unit quantity, yet permitting the shopper to see the merchandise. The packages keep merchandise clean and help to keep it in order. With proper packaging there is no need for piles of goods to become a tangle of unfolded garments after a short period of heavy shopping. The costs of refolding and replacing are reduced amazingly.

During the peak of the last Christmas selling period it would have been impossible for Hearn's to keep merchandise in order without cellophane packaging, according to Mrs. Ilga Martin, assistant to the president and director of research. Soilage was estimated to have been reduced 60% in this store through wrapping in comparison with results in self-selection areas before the store installed its mobile packaging unit.

Hearn's is using in-store cellophane packaging for the selling of infant's wear, brassieres and garter belts, curtains and draperies, house slippers, women's blouses, men's shirts, pajamas and jewelry, and it is planning to package everything else practicable as rapidly as the facilities can be installed.

Typical Hearn's equipment for packaging consists of a bag-making machine handling about seven different widths of bags, which accommodate practically all items being packaged in cellophane so far. The equipment is similar to that in use at L. Bamberger & Co. The mobile sealing unit can be rolled anywhere in the store so that merchandise may be wrapped at the self-selection areas or at the receiving room, whichever is more convenient. Additional packaging is also being done at selling areas by attendants through the use of prefabricated cellophane bags and cellulose tape. A marking device has been added to the heat sealer so that merchandise may be price-ticketed in the same operation.

On-the-premises wrapping systems, however, are believed by Hearn's to be only an expedient until soft-goods packaging works its way back to the manufacturer level. Traditional procedures in this field will undoubtedly change radically to meet new selling requirements. As it is now, soft-goods manufacturers are still shipping merchandise in shelf boxes. In a self-selection operation these boxes are, in most cases, a total waste. The store unpacks the merchandise, individually wraps each item in transparent film and throws the shelf boxes away.

If the transparent wrapping were done by the manufacturers in the first place, the shelf boxes could be eliminated and the cost of the double packaging saved, stores believe. The individual transparent-wrapped items could simply be placed in one master carton of inexpensive design. The carton would have to be only strong enough to carry the merchandise and labeled sufficiently to identify it.

The effectiveness of transparent packaging in department stores is quickly apparent when viewed on modern tiered fixtures used in today's typical self-selection operation. Store space today is thought of in three dimensions—not square, but cubic feet. Instead of flat stock tables holding piles of merchandise, modern fixtures are tiered so that three times as much merchandise can be stocked in the same area. On these tiered devices, it is often possible to place the transpar-

MOBILE SEALERS that can be wheeled wherever needed for in-store wrapping are being used as an expedient until soft-goods packaging catches up with demand at the manufacturer level.

PRE-SEALED NYLONS sold from open samples are now an essential to this new way of doing volume business—a method of selling hosiery that many of the department stores refused to accept only a few years ago.

TOILETRIES, cosmetics and drug counters look for all the world like the shelves in a supermarket. Department stores are finding out that shoppers like to make their own selections without the aid of a clerk—and they are selling more.

TOY DEPARTMENTS in a number of stores like this one at Hearn's were operated like supermarkets last Christmas, complete with push carts and check-out counters. This was possible because of the display packaging techniques in the toy field.

SELF-SELLING packages for scale-model wind-up toy vehicles by Leslie-Henry, Inc., are good examples of toy packaging for self selection. Each item is individually protected and illustrative technique shows at a glance what each package holds.

PHOTO COURTESY GEORGE REINER.

ent packages vertically in wire racks. So rudimentary is this development that stores are actually making use of plate racks from their housewares sections for this purpose.

When the packages are carefully marked for size and style, it is a simple matter for one attendant to keep an entire department in neat order. Open samples arranged on top of the fixture permit customer examination. There is no need for a package to be opened, as the contents can be readily seen through the clear film and checked with the sample.

With this new selling trend, there is likely to be a swing away from the individual cartoning of soft-goods items, store managers believe. While cartons give excellent display to brand and trademark, they tend to obscure the merchandise. That manufacturers are watching this trend closely is apparent in a recent comment by a leading package designer in the textile field who has noted a marked slowing down in carton redesigns in this field—very likely indicating that packaging is due for a change.

Manufacturers of branded items should also be aware of the need for new design treatments on transparent packages for self selection. Large, clear areas that show the merchandise to advantage are finding preference over designs that cover too much of the package face with broad areas of color printing. Brand identity can still be maintained strongly in such designs. Good examples are the restricted areas of color printing on household-textile packages, such as those for sheets and pillow cases; also for certain baby garments where the printing is used only to stress brand, product identification and a small illustration, if necessary, allowing the merchandise to be clearly seen.

Brand is extremely important and is as essential on packages for the self-selection department store as it is on the cans of soup and cartons of soap flakes in the supermarket. More and more shoppers are being pre-sold on brand by space, TV and radio advertising and look for that brand on the package when they go to the store.

Transparent packaging in the department store is offering new opportunities for related selling. Hearn's has pioneered with packaged layettes, including in one cellophane package all of a baby's first needs, ranging from safety pins to blankets. This has been reported as an excellent promotion for the multiple sale as well as for gift purchases.

Department-store merchandising is highly dependent on items with novelty appeal; manufacturers of such items, however, must pay more attention to packaging for these new clerkless set-ups where the product must sell itself. Oftentimes novelty items need visual demonstration to show use.

An example noted in one New York store was an item which turned out to be a "baby feeder." From its appearance you couldn't possibly tell what it was. A small heart-shaped pillow had a loop at the top and another across the pillow. The top loop was to go around the baby's neck so that the

pillow would be placed like a bib as he lay in his crib; the other loop was to hold a bottle in place so that the baby could feed himself. The item was packaged in a paperboard box with a very unattractive drawing showing how it was to be used. The store had not taken a sample out of the box for demonstration, but the buyer pointed out that this should be done. Transparent packaging, she said, would have permitted complete view of the item and the pastel colors in which it was made—while a demonstration display would have shown the shopper at a glance what it was for. A simple card inside or printed directions on the package could have explained use. There are hundreds of items in department stores that are slow movers because the package and display have not been carefully planned for the change to self selection.

Foods and drugs

Greatest emphasis in the department-store field today is on soft-goods packaging simply because it involves hundreds of items previously handled loose that must now be packaged to provide the proper selling instrument in the new self-selection set-ups. At the same time, the packaging of all other merchandise is coming in for closer scrutiny.

Most big-volume department stores have extensive drug and food departments. In these departments, the same demands are made on the package as in the supermarket or the self-service drug store where the package must do the complete selling job. The immediate problem is less here, however, because most of these items have been packaged for open selling anyway and have already been designed for self service.

The need for improved appearance, department-store merchandisers point out, may be noted in labels on specialty food items—the fancy lines not found in the supermarket that depend almost entirely on attractive package appeal in the "gourmet" sections of the department store. Such items include preserves, spices, condiments, maple syrup, packaged cookies, confections, etc.—many of them designed primarily for gift appeal.

There is no problem with cosmetics packaging. These items are designed for impulse selling anyway and toiletries manufacturers know how to create the desire to buy.

Self selection in housewares departments places interesting new demands on labeling. Many housewares items, because they are durable, can be placed in open display without packaging, but they do need labels to identify brands, describe the item and tell how to use it. New techniques are being developed for more attractive labeling. By ganging up label runs, some manufacturers have effected economies that have enabled them to use labels with full-color illustrations at very little extra cost over one- and two-color jobs. Several outstanding successes have been made in the housewares field as the result of careful label planning in conjunction with national advertising programs.

In housewares departments there is also an opportunity for selling related items with proper packaging, such as sets of kitchen knives, sets of baking pans, aluminum ware, ceramic cooking utensils, etc.

In hardware departments there is a growing demand for the packaging of hundreds of small items in proper units, such as drawer knobs, hinges, picture hooks, curtain rings, etc. These units make for quick handling, easy stock keeping and additional impulse sales.

Self selection is also proving the efficiency and convenience of the long-talked-of factory pre-pack for all manner of appliances, china and glass, lamp shades, etc. Many of these items are being sold today from floor samples and more will be handled in this manner in the future. The shopper receives a factory pre-pack from the store's stockroom or warehouse. This procedure saves the store substantial overhead in that such items no longer have to be unpacked and repacked by the store. Proper inspection of product and package at the factory level has reduced complaints of faulty merchandise to almost nothing.

A word should be said about pilferage in these new store set-ups. Sometimes bulk can be added to the package to discourage the shopper who can't resist making away with small items. Stores say, however, that the pilferage resulting from open display is far offset by the greater volume that can be sold and the lower operating costs of self-selection selling. It is less costly to add a few more people to a store's protective force than to maintain costly training programs for large numbers of sales people, according to Albert M. Greenfield, chairman of the board, City Stores.

With department-store operators at last fully aware of the benefits of self selection, the last big stronghold of resistance to antiquated, non-packaged selling methods is being broken down and packagers in every field have the chance to develop packages that are the best possible selling tools for today's requirements.

CREDITS: *In-store cellophane wrapping systems at Hearn's and L. Bamberger & Co., a development of Olin Film Div., 655 Madison Ave., New York 21, using heat sealers by Amsco Packaging Machinery, Inc., 31-31—48th Ave., Long Island City, N. Y., and ticketing adaptor by Soabar Co., 5815 Erdrick St., Philadelphia 24.*

MULTIPLE SALES are encouraged by cellophane wrapping for self selection. Bamberger's increased sales volume substantially by wrapping children's sleepers three to a package, offering them as a unit at a special price, instead of offering them packaged singly.

Ronson's

FAMILIAR CAN, in ivory, blue and red, for Ronsonol lighter fluid is now topped by red molded polyethylene "Switch-Spout" which seals positively with a shift of nozzle and eliminates old problem of puncturing former lead spout. Not a drop of lighter fluid passes the spout when it is in closed position, despite maximum squeezing pressure being applied in this photo. In foreground, two disassembled spouts indicate how tight seal is achieved through use of disk which rotates within slotted chamber in base of cap. Lower side of base (left) has internal shoulder which seats firmly when it is forced over the bead on neck of the can.

Something new has been added to Ronsonol lighter fuel in its familiar 4-oz. can. The screw-capped lead spout, for many years identified with this container, is being retired. Supplanting it is an ingenious new molded polyethylene dispensing spout with its own integral closure which seals securely, cannot be lost and eliminates the former requirement of piercing or cutting the nozzle before fluid can be dispensed from the container.

Initial distribution of Ronsonol cans with the capless Switch-Spout, as it is called, was on the West Coast, which was the scene of preliminary market tests with this new package feature. Currently, however, the revised package is moving into full national distribution backed by a strong advertising and promotional program.

What's the story behind Ronson's switch to the Switch-Spout?

What were the problems which had to be overcome in the design and production of the plastic spout, as well as its high-speed application on the company's existing packaging lines?

Finally, how did Ronson make certain—in advance—that the spout would withstand normal shipment and handling without leakage or developing other defects which would cancel out its convenience features?

Although no formal consumer research was ever undertaken, Ronson management for some time had realized the shortcomings of the lead spouts. Inconvenience was the chief stumbling block: to open the can of lighter fluid, it was first necessary for the user to unscrew the lead cap, then either puncture the top of the sealed spout with a pin or cut off part of it with scissors. Since most men rarely carry either pins or scissors, the inconvenience factor involved was considerable.

Frequently, too, when the consumer cut the spout too low, the threads were destroyed and it became difficult, if not impossible, to screw the cap back on—provided, of course, it had not become lost in the meantime.

As the foremost producer of lighters and lighter fuel, Ronson was naturally interested in a device which would provide greater consumer convenience. When use of the two-piece, molded polyethylene spout was first proposed, the company immediately saw it as a distinct improvement. But two questions remained to be answered—how retailers and consumers would react to the plastic spout and how well the spout would stand up under conditions of shipping and handling.

In August, 1958, a small market test (not a sales test) was conducted in San Diego during which some 4,000 Ronsonol cans having the new spout were distributed to 150 drug, tobacco, grocery and jewelry outlets. Although distributors were asked to be on the lookout for complaints during the test, not a single negative reaction was recorded.

While this test was in progress, Ronson's own technicians uncovered a possible source of trouble; they rea-

switch-spout

A leakproof molded closure of polyethylene for lighter-fluid can is, by a simple flip of the finger, both cap and dispenser

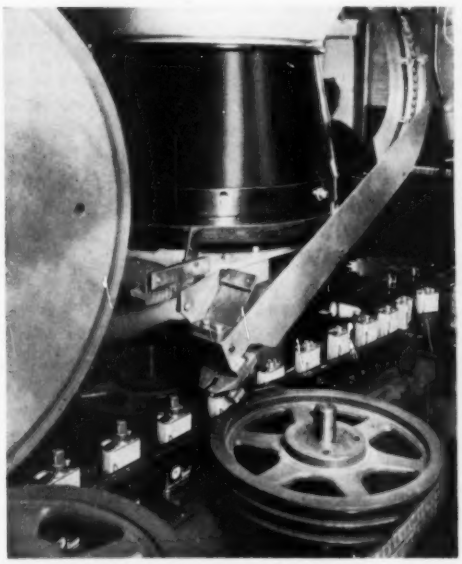
soned that a consumer might be inclined to swivel the plastic cap around on the neck of the can, loosening it sufficiently to cause a leak. This problem was overcome by designing the cap for a tighter friction fit which makes swiveling extremely difficult.

Encouraged by the enthusiastc reception received from the trade and the public, Ronson then embarked on exhaustive tests of the spout's ability to stand up in normal shipment and handling. Several independent testing organizations were retained to compare the relative durability of the lead spouts and the proposed plastic spouts on the 4-oz. lighter-fluid cans by means of parcel-post shipments. Revolving drums, drop tests and other forms of abuse were called into play as part of this investigation. Sample shipments were also routed by truck to various parts of the country and carefully examined for possible failure. By means of weight determination, the ability of both the lead and plastic spouts to prevent evaporation of lighter fluid after exposure to normal and adverse temperature conditions was studied.

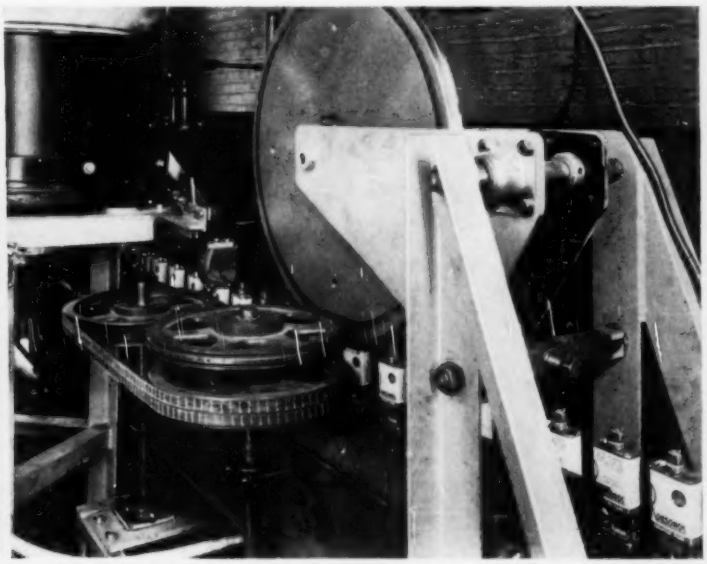
The results of these tests showed that both the plastic and lead spouts were adequately protected against the hazards of fourth-class shipment and that there was little choice between them with respect to durability. Also, there was little difference between the two types of spouts with respect to weight loss from evaporation of lighter fluid after exposure to room temperature for three days and a similar period at high temperature. However, the tests revealed plastic spouts were superior in this respect after exposure to zero temperatures. At abnormally high temperature some "bleeding" of the gasket material used to effect seam closure of lead spouts was observed. At zero, eight lead-spout cans out of a total of 96 were found to be leaking. However, none of the 96 plastic-spout cans showed leakage after exposure to this temperature for a similar period.

Although the cost of the polyethylene spouts is somewhat higher than that of the lead variety, Ronson officials believe that the difference is more than offset by the valuable convenience features of the plastic spout, which should help to solidify Ronson's present position of sales leadership.

Through adoption of the plastic



ON RONSON LINE, caps are fed from hopper and tentatively located on tops of cans as filled containers move down packaging line. At this point, caps are merely resting on cans.



FINAL SEATING of cap is accomplished by large grooved wheel, which uses a continuous rolling motion to exert pressure on cap and drive it permanently home. Resiliency of polyethylene material, combined with its chemical resistance, made the new caps possible.

spouts, also, indirect savings of considerable importance will be effected due to the reduction in shipping weight. A case of 24 cans with metal spouts weighs 8 lbs., as compared to 7 lbs. for the same number of containers with polyethylene spouts. Considering the large tonnage shipped annually, this difference will produce a sizable reduction in shipping costs.

Although basically simple in design and operation, Ronson's new Switch-Spout involved approximately three years of development work. The company which supplies the spout cooperated closely with Ronson engineers in adapting it to the special requirements of lighter fluid.

As shown in an accompanying detail photograph, the spout consists of two parts—an outer housing, circular at the bottom and shaped into a hollow rectangular extension at the top, and a flat circular disk with an integral pierced spout which can be inserted directly into the filling hole of a lighter to avoid spillage. Held firmly in the groove by the unique resiliency of the polyethylene material, the spout may be swung to either end of the opening to shut off the flow of liquid, or moved to the center position when fluid is to be dispensed from the can. With the spout in vertical position—and only in this position—the small opening in the spout lines up exactly with that through the base of the cap and fluid is free to flow. Vertical arrows molded on the side of the "turret" direct attention to the movable spout and the word "open" appears at the base of each arrow.

So effective is the seal made by this "rotary valve" arrangement that the can itself will rupture at the seams under pressure tests before the spout will leak. Even the weight of a 200-lb. man, standing on the flat side of the can, will not produce leakage of lighter fluid with the spout switched to "off" position, Ronson reports. The excellent sealing properties of polyethylene and the fact that the disk-like lower end of the spout can rotate freely in the slot without permitting fluid to pass between the two bearing surfaces are together responsible for this feature.

It is questionable whether the Switch Spout could have been made successfully of other types of materials. Initially, of course, polyethylene is practically unaffected by the lighter fluid itself, which is a blend of hydrocarbon naphtha solvents. Design-wise, the lower section of the cap must be molded so that the rectangular opening at the top is actually smaller than the cavity in which the circular disk spout seats. In the terminology of the plastic molder, this constitutes an undercut. The bottom of the cavity corresponds to the arc of the disk, producing an extremely close fit.

In the molding plant which produces the new plastic caps, the spouts are force-fitted into the slots. Once more than half way in place, they literally draw themselves down into the cavity, seating so firmly that considerable force is necessary to pull them out. No amount of pressure on the can will cause the spout section of the cap to pop out of the base.

On its underside, the cap is molded with an internal shoulder or ridge which snaps down over a beaded rim on the ⅜-in. opening at the top of the lighter-fluid can. One of the most critical molding problems arose in getting precisely the right dimensions for this shoulder to insure a leakproof fit between cap and can. Here again, the elasticity of the polyethylene material made the desired close contact possible.

Ronson packaging lines, similar to the type utilized by many polyethylene squeeze-bottle users, can turn out up to 120 filled and capped Ronsonol cans per minute. After being filled, the cans are moved by conveyor beneath a chute leading from a supply hopper filled with the assembled plastic caps, which have been pre-heated to facilitate slipping them over the beaded opening of the can. Caps are automatically unscrambled and leave the hopper in a solid line, shoulder to shoulder. Starting out in an inverted position, they gradually assume a more upright position as they feed down the groove of the curved chute.

As the edge of each can contacts the mouth of the chute, a cap is gently nudged in position on the neck of the can. At this point, no force is applied and the cap is only tentatively located. The difficult job of permanently anchoring the cap is accomplished by means of a wheel, about 24 in. in diameter, with a narrow, tapered slot around the circumference which fits the sloping shoulder of the caps. In a continuous rolling motion, this wheel comes down over each cap as the filled cans move along the line, pushing it firmly down over the beaded rim.

During the introductory period, when consumers still need to be educated on use of the new spout, the cans are being packed one dozen to a counter display carton and two display cartons to a shipper. The attractive blue, white and red counter carton focuses attention on the new Switch-Spout.

Although Ronson holds exclusive rights on the use of the new type self-sealing spout for various products, the possibility of using similar caps for other products such as after-shave lotion, hair tonic, shampoo, cooking oil, etc., is being studied. In each instance, although the basic construction of the spout remains unchanged, applications will necessarily be "tailor made" to fit the can or other type container being used and to provide the proper size opening to suit the product. The cap is believed to have particular adaptability to polyethylene squeeze bottles and to products where a closely controlled dispensing action and positive closure are required.

CANS ARE DISPLAYED in lots of 12 in this attractive counter carton which points out convenience features of spout. Red color of spout itself contributes interesting new eye appeal.

CREDITS: *"Switch-Spout" caps supplied by Turret Seal Corp., 59 E. Van Buren St., Chicago; molded by Mills Plastic Div., Continental Can Co., 2930 N. Ashland Ave., Chicago 13. Cans, Continental Can Co., 100 E. 42 St., New York, and Crown Can Co., Erie Ave. at H St., Philadelphia.*

USE ILLUSTRATIONS and size designations inside the price spots on cellophane wraps quickly steer shoppers to the sponge most suitable for various jobs in and out of the home. DuPont oval is on all six sides.

Strategy for sponges

DuPont's new wraps pinpoint a single use for each sponge to encourage buying a whole set

In selecting a synthetic sponge, the shopper has always had some hesitation when it came to picking the right size and type for dishes, for the bath, for general cleaning or whatever the proposed use might be. New colorfully printed cellophane overwraps being introduced by E. I. DuPont de Nemours & Co., Inc., Wilmington, Del., for its family of cellulose sponges meets the problem by using eight different use illustrations—each one clearly suggesting a recommended use for the particular sponge contained.

First to be released, and the ones which will be heavily promoted by the company, are three sizes in the popular colored sponges. The decision to emphasize these three—each with its own particular use—followed a consumer market test which showed that sponge sales jumped 22% when all three sizes were displayed in the same shelf space formerly occupied by one or two sizes. The survey also disclosed that sponge sales increased as much as 57% when shelf displays were supplemented by dump displays in shopping baskets. It was this revelation which influenced the package design for the colored sponges and the five other buff sponges.

Another important consideration was that, as yet, many consumers are not confirmed sponge buyers, despite the fact that sponge sales in food stores in 1953 were 81% higher than in 1952. If they could be encouraged to try the three popular types, the company figured, they would soon realize how well the other sizes could fit into their household tasks. In brief, the intent of the new label is not only to gain new users, but to increase use by present customers.

Colorful cellophane overwraps on the sponges are therefore designed to help the shopper make her purchasing decision. For the three colored sponges, one overwrap shows a dishwashing scene, another a bath scene and the third a general cleaning scene. The single-use suggestion, the company claims, avoids clutter and makes an emphatic, clear-cut suggestion to the shopper. In the same vein, illustrations on the buff sponge packages suggest sponges for heavier household cleaning jobs and car washing.

In addition to the use illustrations, strong informative copy assumes an important place in the new design. Printed on the back panels of the three colored sponge packages is the appeal to "buy all three sizes," for three specific uses. This also has the intent of encouraging retailers to display all three sizes. Copy is slightly different on the buff line, but follows the same general promotional line. A slogan featured in the company's consumer advertising, "so easy to clean with . . . so easy to clean after using," is spotted on the fronts of most of the packages.

The tie-in between package and advertising is in line with today's important trend, namely, aimed at strengthening consumer association between the ad and the package in the store and also seeking to lay the groundwork for a stronger dealer merchandising program.

DuPont sought a package design that would clearly distinguish its product from that of competitors. A feature of the new wraps—primarily green, red and reverse printed white—is the unmistakable family relationship. The famous DuPont oval trademark, printed with a red background and reverse white lettering, is emphasized. Underneath the oval and the words "cellulose sponge" is a large white price spot showing size, to link each size with its price.

DuPont repeats the oval trademark and the word "sponge" on five sides, thus making certain that complete brand and product identification are maintained no matter how the package winds up on the shelf or in a typical jumble display.

CREDITS: *Cellophane overwraps printed by Shellmar-Betner Flexible Packaging Div., Continental Can Co., Inc. Mt. Vernon, Ohio, using DuPont cellophane.*

BACK PANEL of package suggests other sizes are needed.

Easier-opening cigarettes

Philip Morris stirs sales with its patented "Snap-Open" corner—first new convenience feature in this field in a decade

RED SQUARE on top of pack is only difference in appearance.

TEAR TAPE is zipped off the wrap in the conventional manner.

CELLOPHANE at the top is pulled to tear off the red tab.

Across the country smokers are being intrigued with a bright red square of cellophane currently seen on the top of Philip Morris cigarette packages. This square is the secret of an exclusive new easy-opening feature called the "Snap-Open" pack—the first noteworthy convenience innovation in big-brand packaging since the introduction of the cellophane tear tape.

The package is also an interesting example of an effort to use a new package convenience feature to reinforce competitive position. All regular cigarette makers today are having their sales troubles, with unfavorable medical reports and the inroads on regular cigarettes by the use of the supposedly safer "filters."

The new Philip Morris pack is designed to permit faster, easier opening of the package and to allow neat refolding. According to Philip Morris & Co., Ltd., Inc., the provision for reclosure will assure greater moisture protection during use and keep grains of tobacco from filtering into pocket or purse. Average opening time of 8⅕ seconds has been estimated to be cut to 2⅗ seconds with the new pack.

American cigarette packaging has been marked by three important stages: the switch from cardboard to the foil and paper cup packages (about 1913), general adoption of the cellophane wrap during the '30s and general acceptance of the tear tape during the mid-'40s. Philip Morris' "Snap-Open" package is thus the first significant alteration in the structure of the standard cigarette package in a decade.

There was a time when the difficulty of opening a cellophane cigarette wrap was the butt of comedians' jokes. The tear tape—which Philip Morris also uses—took care of that. Now Philip Morris has gone one step further.

The new quick-opening feature is being used for both regular and king-size Philip Morris. In appearance the improved package is little different from the regular cellophane-wrapped, tear-tape package except for the small red square under the cellophane wrap at one side of the top of the package next to the revenue stamp.

The user first tears the tape around the top of the package in the conventional manner to open the outer cellophane wrapper. He pulls off the remaining hinged oblong piece of cellophane over the top and the folded laminated foil over the cigarettes "snaps up," exposing the cigarettes at one corner only. The user no longer has to dig into the foil and peel off a portion to make the usual top-corner opening. An open section in the foil, neatly trimmed, where the cigarettes are immediately accessible, is provided automatically by the new opening feature. The foil may be folded down again, replacing the open section, or may be ripped off completely, as preferred.

The new package represents more than two years of development work by Philip Morris behind closed doors in collaboration with the firm which owns and leases the packaging attachment for applying the "Snap-Open" feature, the suppliers of the high-speed cigarette packaging machinery

TAB raises the foil, providing neatly trimmed opening for pack.

CORNER OPENING is made with a flick of the finger. No more digging to get the end open. Secret of this automatic feature is a tab of cellophane which is sealed to the foil and cellophane overwrap. Opening time is reduced from 8 4/5 to only 2 3/5 seconds.

which is building the "Snap-Open" attachment and the supplier of the new cellophane opening tab. The latter firm was responsible for developing the special coating for the tab that will seal to both cellophane and foil without slowing the high-speed packaging operation, as well as for assistance in engineering research.

Although, for competitive reasons, complete details on the development are not being released, an examination of the package gives an indication of how the new convenience opening is achieved.

The red square which appears on the top of the package is actually a tab of heavy-gauge, specially coated, heat-sealable red cellophane tape ½-in. wide. While only a ½-in. square may be seen, the tab is actually an inch long. Half of it is sealed to the foil under the tuck flaps of the end folds; the other half (the red square that shows) is sealed to the cellophane overwrap inside the tuck-folded seal. The conventional foil wrap is slit at both sides of the end tuck to the top edges of the package. When the foil is folded the slits lie just under one lengthwise side of the revenue stamp.

After the smoker has torn off the standard tear tape and lifts the oblong of cellophane off the top, the red tab acts as a hinge. A pull on this hinge raises the slit foil and breaks the tab loose from the foil, leaving the top end of the package open and the red cellophane tab attached to the piece of cellophane removed by the tearing tape. The cellophane tab is applied to the package by specially engineered attachments to Philip Morris' existing high-speed packaging machines (120 per minute).

Philip Morris reportedly has a one-year exclusive in the cigarette field on these attachments—sufficient time to attract many new smokers to Philip Morris before the opening feature is available to others. The firm licensing the attachment says the device measures only 9 by 9 in. and can be put on almost all standard packaging machines now in use. The inventor has (*This article continued on page 226*)

AD THEME for all current Philip Morris promotion is the new pack—TV, radio, space and point of sale. Displays show Johnny with the new pack and how to open and reclose it.

HORIZONTAL arrangement of the famous red-and-white color split and the familiar lettering keeps new frozen-soup packages in Campbell family, but distinguishes them from regular canned soups. Same No. 1 size can is used.

Frozen

Four frozen soups in lithographed cans, which the Campbell Soup Co., Camden, N. J., is market testing in the Philadelphia, Southern New Jersey and Wilmington areas, represent one of the most closely watched current developments within the food industry.

Depending on Campbell's success, this venture has possibilities of opening up an important new field of expansion for Campbell in the already billion-dollar frozen-food industry and it might also put the final stamp of acceptance on metal cans as a frozen-food package—following up the success already established for frozen fruit juices and fruits in syrup.

The soups which Campbell is testing in the frozen-food cases include: chicken vegetable, green pea with ham, oyster stew and cream of shrimp. Freezing, according to the company, makes available to the consumer soups never possible before even from Campbell. Consumer acceptance of frozen soups in cans—basically the same package as long used for hot-processed soups—should greatly broaden the market for new varieties of soups that Campbell's have heretofore not attempted to package commercially until they were convinced the process would retain the delicate ocean-fresh flavor of sea foods.

Campbell's decision to take the initiative in this development is based on the company's desire to continue its enviable leadership in the soup field. By expansion into new lines which frozen varieties will make possible, it is believed that the soup market can be broadened similarly to the way the cereal market has been expanded with the currently popular sugar-sweetened cereals.

With more than two-thirds of American homes equipped with some facility for storing frozen foods; with consumers believed to be sufficiently educated to seeing frozen products in cans so as not to confuse them with processed foods;* and, with American families spending a record proportion of their budget on food, the time appeared right to try out this new idea in soup merchandising.

Campbell makes it clear, however, that it will be months, if ever, before the soups go into national distribution. The company is proceeding slowly to determine consumer acceptance for these quality products and to find out whether shoppers are will-

*See "Frozen Food in Can," MODERN PACKAGING, Nov., 1952, p. 85.

ing to pay the necessary higher price for this quality. The project was started with no sales or price history. At present, extensive retailer and house-to-house checks are being made in the test areas to find out who is buying the new frozen soups and how they are being received.

The unit of sale is a No. 1 can, the same size as the familiar regular Campbell's soup can. The product is condensed and the consumer, of course, adds water or milk in the same manner as for the familiar condensed processed soup.

The fact that the product must be frozen in the cans and that the cans must be kept under refrigeration has necessitated the use of lithographed labeling directly on the metal rather than applied wrap-around paper labels as long used on the hot-processed Campbell's soups. Campbell is producing the containers on its own can-making lines, using lithographed can plate from an outside source. Packaging is done similarly to that for frozen fruit juices. The cans are first filled, then sealed and frozen.

As the packages for the frozen soups will be displayed in frozen-food cases in store areas completely separate from regular Campbell soups, a design arrangement was desired to distinguish the new frozen products unmistakably from the regular Campbell canned soups. This, plus the fact that frozen canned goods are usually stocked in refrigerated display cabinets in horizontal position, prompted the new horizontal treatment of the familiar Campbell logotype.

Basic identity of the frozen-soup cans—one of Campbell's biggest assets—is retained to the fullest.

The red-and-white color split by which Campbell soup packages have been recognized for nearly half a century, plus the distinguishing lettering of the words, "Campbell's" and "soup" are the same except for adjustment to the horizontal area. The soup variety is boldly lettered for quick visibility and easy selection.

Basic arrangement of the design elements has been planned carefully for flexibility in case other varieties of soups are added to the line later.

The back of the label contains complete directions for cooking plus caution to "Keep frozen" and "Do not re-freeze."

A striking innovation is the re-introduction on the package of an illustration of one of the Campbell Kids—long included in Campbell advertising.

These famous trade characters are well known to the present generation through TV animation and other media.

It was calculated by the sales department, the company's advertising agency and the designer that the appearance of the trade character, depicted as a chef pointing to the word, "Frozen," would be a further aid in differentiating Campbell's frozen soups from the hot-processed varieties. The little figure would also be an aid in "humanizing" the company and be a strong tie-in symbol with all advertising. And the trade character offers possibilities for appeal to the juvenile market—an important and growing influence in today's food merchandising.

Campbell's soups

A famous can makes its appearance in the frozen-food cabinets in tests that have a broad impact on food merchandising

ON DISPLAY in refrigerated store cabinets, horizontal design layout meets the requirements for horizontal position of the cans. Bold lettering of the different soup varieties makes for easy selection.

Consumer

Entry of the big, resourceful chemical industry

In recent years, particularly since the end of World War II, developments in the fast-growing chemicals field have brought about vast changes and entirely new frontiers in packaging. Not only has chemistry spurred the introduction of new consumer products to be packaged, but it has also contributed materials that have helped revolutionize the field of packaging. Polyethylene, Pliofilm, saran, VCI, desiccants, aerosol propellants, new can coatings and silicones are among these contributions and new names like Mylar (polyester film) and Parapol S (S-polymer resin) are soon to enter the packaging vocabulary.

The production and sale of chemicals is this country's most robust industry. For as far back as the '30s, its annual growth has averaged a steady 10%—more than three times the annual all-industry rate of increase. Last year's sales of chemicals were an estimated $20 billion.

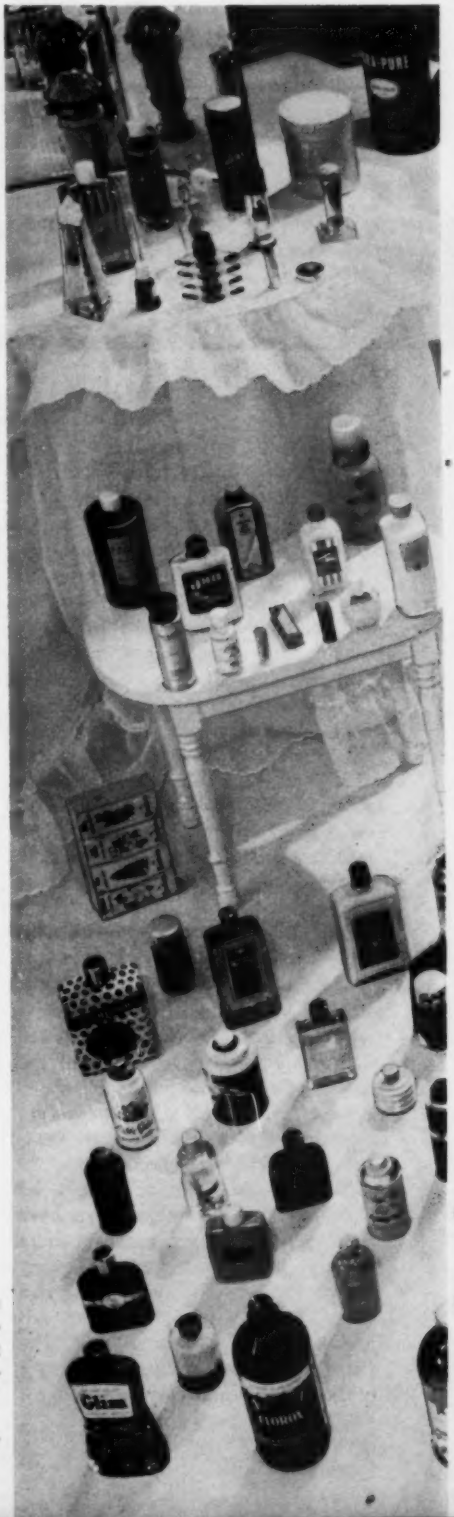
There are now more than 600,000 known organic chemical compounds and this list is being fattened at a rate of 30,000 items a year—pushed relentlessly ever higher by the quarter-of-a-billion dollars the chemical industry spends yearly for research. Not all of the old or new compounds find commercial application and only a relative few are converted into consumer specialties, but the net result of all this activity is the creation of more and better products for consumers.

These new chemical products and the new uses for long-accepted chemicals enter the stream of production and merchandising in a torrent—making insatiable demands for packages, often of a special nature, and initiating and influencing many significant packaging developments.

The chemicals field has always been an important packager in its own right—with the producer customarily regarded as a bulk packager and the processor as a consumer-item packager. However, within the past 10 years the onrush of chemical specialties has created a brand new area for packaging and in this new and thriving field both the bulk producers and their customers have participated in consumer-item packaging developments that have wide implications for the packaging field as a whole.

Numerous factors have nudged the bulk producer into the branded-product field. One development often leads to another. For example, when DuPont brought out its revolutionary line of Duco car finishes in the '20s, it resulted in a consumer demand for cleaners and polishes to preserve the family car's fine lustre. As a result, DuPont's No. 7 Polish was introduced in 1935 and has grown into a full line of DuPont consumer products, including 20 new items introduced since 1948.

DuPont is fairly typical of the big companies in the chemical field who have met and mastered the problem of consumer packaging. Today, DuPont has four major divisions producing packaged products for retail sale under its own brand name. Indicative of the importance of DuPont as a consumer-item packager is the fact that 8% of the company's $1¾ billion sales volume last year was accounted for by products that went to the consumer under a DuPont label. Moreover, the trend for DuPont as well as



CHEMICAL PROGRESS comes to the consumer on a sea of different packages. The $20-billion chemical industry, fastest growing of all businesses today, uses every known form of packaging and has been a great pioneer of special packages and convenience features. In consumer packages, the industry has been, first of all, the housewife's friend.

chemicals

into consumer products has been a great stimulant to packaging

PHOTO COURTESY DU PONT.

Convenience features have been the chemical industry's

PHOTO COURTESY DU PONT.

YOUR DOG HAS FLEAS? Insecticide packaged in an aerosol spray container makes the age-old job much easier.

BUGS IN THE ROSES? Pumping the package produces a cloud of dust that will kill both the bugs and the fungus.

for other giants of the industry is continuing up.

Many packaging firsts have been established in the chemical-specialties field. Just as packer's cans and their protective coatings owe many of their advancements to the needs and developments of food processors, so do general-line cans for cleaners, polishes, finishes and the like trace many of their improvements to the special packaging needs of chemical products. For example, DuPont's No. 7 Touch-Up-Black (brush in can) package was the first container of the uninterrupted-thread type to be used for touch-up purposes. The container was a joint development by DuPont and the can manufacturer. DuPont Cooling System Cleanser was the first acid-type radiator cleaner to be sold in solid form in a two-compartment can.

Many chemical producers have only recently entered consumer-item packaging as the result of developments in the chemical field itself such as the advent of new insecticides, herbicides, plant food, detergents and many individual chemical products too numerous to catalog.

A third factor in the growth of consumer-item packaging by bulk producers has been the trend to diversification—with many of the large supplier companies in the chemical industry developing and marketing

SPRIGHTLY LABELS as well as convenient applicators have helped popularize home insecticides and deodorants. Labeling techniques have been highly developed by chemical packagers.

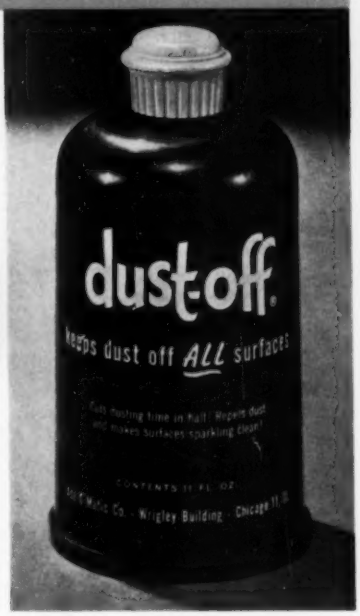
PHOTO COURTESY OWENS-ILLINOIS.

PROTECTION IN PAPER has reached a peak of perperfection in the chemical industry, where toxic products and detailed labeling are often encountered.

PHOTO COURTESY SHELLMAR-BETNER.

big forte in packaging

DIRTY HANDS? Pressure on patented floating diaphragm sends up jet of cleaner.



DUST A NUISANCE? Squeeze bottle applies dust repellant mist.

brand-name products or acquiring processing facilities that have already-established consumer lines. The economic advantages of integrating raw-material-to-end-user activities and the accretion of income-producing items have added continued impetus to the trend. This move would have undoubtedly accelerated even faster than it has were it not for the fact that supplier companies have, in the main, exerted great care not to upset relationships with their traditional industrial customers.

Moreover, there is a world of difference between packaging in tank cars and packaging in a 4-oz. container that will sell itself and help the customer make "miracle" use of a product that can be a "miracle flop" if not correctly, safely and easily applied. Bulk packagers have learned that much know-how is involved in the operations of the processor before he can reap the harvest of selling 10-cents-a-pound bulk chemicals in quarter-pound retail packages for 49 cents a package.

Another factor of major importance to basic chemical producers is the public relations value of consumers coming to know a company through its packages and products. Some of the largest chemical producers, giants in their industry, until recent years have been practically unknown to the public at large simply because there was no tangible consumer contact. On the other hand, the users of long-accepted products like Duco Cement, Flit insecticide spray and Prestone anti-freeze are well aware of the companies behind them.

The role of branded, packaged products in good public relations is now being recognized as a factor of immense potential—with influences that carry considerable weight in such seemingly remote connections as labor, Government, community and stockholder relations.

The possibilities of packaged products as a medium for making chemical companies better known are especially potent at this time because of the new outlets and sales opportunuities afforded by housing expansion and modern trends in home-making. For example, with the introduction of its "Saran-Wrap," the Dow label has, almost overnight, won a foothold in the modern kitchen. The same is true of Monsanto's "All" detergent. In another major category are the 17 million home gardeners, potential customers for pesticides, weed killers, plant foods, fertilizer and the like.

The packaging era

What might be termed the new era of packaging in chemical specialties began at the close of World War II. Unrequited consumer interest in wartime-restricted products such as DDT and the aerosol insecticide bomb, plus the general feeling on the part of the public that a new age of push-button living was due, provided the groundwork. To capitalize on this market, many new chemical specialties were introduced and moved by means of packages properly designed to meet new self-selling and use requirements —especially those that featured easy dispensing of package contents.

The packager who is interested in learning how packages can help create markets, how they can facilitate use and how important are instructions

QUICK, HENRY—THE FLIT! became a national by-word 25 years ago when Esso launched its Dr. Seuss advertising campaign. This was one of the early Seuss drawings. Success of the campaign helped turn the chemical industry's attention to consumer possibilities.

THE PLAN of the chemical package is usually the subject of high-level conferences. As many as 20 executives may be involved in the label decision.

THE RESULT is effective use, consumer satisfaction and repeat sales for this and companion products. Crag Herbicide-1 carries instructions for use on more than 50 various kinds of home plantings.

PHOTOS COURTESY CARBIDE & CARBON.

in assuring repeat customers can find no better school than that provided by the consumer-chemicals industry. The dispensing package can almost be called the specialty of the chemical-specialties field. It is not a strange coincidence that the chemical products, individually or as a class, which have found the fastest-growing favor with the public have been those packaged in aerosols, dust guns, squeeze bottles and other types of containers having handy and intriguing dispenser features.

The techniques of labeling—particularly the handling of instructions, cautions and listing of ingredients—have also been highly developed by the chemical packager. DuPont, for example, reports that as many as 20 key people may be involved in determining and executing the label for a chemical product. The design of a package that must be equal to self-selling requirements and may have to be a young textbook of mandatory as well as manual-of-use information presents chemical packagers with a problem as challenging as any to be found in the entire field of labeling.

The techniques employed in packaging chemical specialties are unusually revealing at this time because they highlight the key role packages can play when entire classes of products push through the "sound barrier" of modern merchandising into self service. This same transition took place for foods and many other products—including a number of established household-type chemical specialties—some 20 or 30 years ago and it has, of course, been growing ever since.

The newer chemical products, however, seeking direct lines to consumer favor, are now in the thick of finding their best markets. And in this quest, chemical producers and processors are discovering that the package can be the deciding factor in determining types of markets available and in broadening the volume of sales that can be cultivated in those markets.

Chemical specialties, in general, do not start with the same opportunities from the standpoint of universal appeal as are enjoyed by foods and other staple lines. For many chemical products, the types of outlets are

How does your garden grow? Chemicals offer an answer

MONSANTO has done an outstanding job of consumer label design on its home-garden line, including soil conditioner, concentrated soluble plant food, insecticide dust, weed killer.

DU PONT FAMILY of garden chemicals features life-like full-color reproductions of the healthy flowers and produce to be expected from use of the products.

limited and perhaps always will be to some extent. However, when merchandising advances are made, it can be taken for granted that packages will help pioneer the way. And based on the extremely solid evidence to follow—showing some of the most successful packaging-marketing achievements to occur in any product field in the postwar era—packaging can provide the efficiencies of automatic selling in more and better outlets for practically any type of product that can be packaged.

In any list of outstanding packaging and merchandising developments today, the pressurized, push-button dispensing container would be near the top.[1]

Aerosol containers have gone from 5.5 million units in 1947 to an estimated 140 million units last year (exclusive of food products), retail valued at somewhere between $160 and $180 million. Some 65 different product classifications (including 20 industrial-use products) and 400 different brand names have already jumped on the aerosol bandwagon. Insecticides[2] have so far been the largest users of aerosols and it is important to note that the aerosol volume has largely been "plus" business, leaving non-aerosol insecticides practically intact.

Push-button containers have carried a large volume of chemical products into the main stream of self service—both in chain and independent outlets. Certainly insecticide aerosols and other pressure-packaged products are increasingly well represented in food, drug and variety outlets. Paints and fire extinguishers are newly accounted for in non-traditional outlets such as drug stores. In some cases, like hair lacquers, snow, air sanitizers, pressure-package fire-alarm devices and water-displacing sprays, aerosols have resulted in new products which probably never would have been introduced or popularized by any other method of dispensing or activation.

Push-button packages, as used by the chemical industry, offer clean-cut examples of packaging's ability to change marketing practices and consumer habits. The merchandiser not only has a new type of package to work with, but finds that it provides a key to open up the most desirable markets obtainable.

Packages are also the keys that are unlocking vast new sales opportunities in the fields of weed killers, plant foods, soil conditioners and insecticides for the home gardener. The number of new products in these categories is practically endless; moreover, the rise of the garden shop and whole new departments in hardware, variety, department, flower and seed stores testifies to the growing vigor of the market and the really serious bid that garden chemicals can make for self-service dollars.

One of the package stars in this field has been the fibre-bodied container, especially the dust gun, which is practically a chemical-specialties' invention. Pump guns for the dispens-

[1] See "Boom in Aerosols," MODERN PACKAGING, Dec., 1952, p. 91.
[2] See "Bug Bomb Aerosol," MODERN PACKAGING, May, 1953, p. 94.

to every problem

MERCHANDISING and display to consumers is new to industry, but firms like Monsanto have learned fast.

COURTESY SHELLMAR-BETNER.

UNIT PACKAGE, a real workhorse for consumer chemicals, is well illustrated by Monsanto's acetate-foil-polyethylene envelope for Folium, with prize-winning label reverse printed on the acetate surface. (To facilitate adhesion to this page, the polyethylene coating on underside of material has been omitted from this specimen.)

The grocery store is a brand-new merchandising medium for chemical companies

SUPERMARKET DESIGN with merchandising appeal was imperative for Monsanto's All, an all-purpose household detergent which has become a big seller. Monsanto opened a new size range in household cartons—as large as 10 lbs.

INNOVATION by All was 25-lb. re-usable galvanized pail, with scoop, favored by both department and hardware stores.

HOME-LAUNDRY MARKET is a big one for chemical industry and has involved close attention to package design to attract and sell housewives in supermarkets.

ing of fungicides and insecticide dusts directly from the consumer package onto the plant help turn many an amateur into an expert. Highly merchandisable as well as convenient to use, the guns lend themselves to effective labeling, are light in weight and are easy to refill.

The dust gun was first produced about 1945 and was designed for insecticides, which were then on the threshold of important merchandising advances at least partially because of the promise held out by new products like DDT and others that were soon to appear. In recent years, dust guns have been improved to provide easier opening, better pump action and directional dusting, with constructions and coatings best suited to protective requirements. Almost infinite variations of height and diameter are available, even in small runs.

Protective chemicals for plants are still the principal users of the dust gun, but a fire extinguisher and traction compound for helping cars get going on ice or snow are examples of other chemical specialties using this dispensing package to good advantage. Its potentials, moreover, have probably only been scratched.

The Grasselli Chemicals Department of DuPont uses a dust gun to package its complete Floral Dust. Simple directions on the label tell when and how to apply on various flowers. With this one gun (plus refill packages) the amateur is in business. Monsanto has a new "Bogey" plant spray. Sketches on the label identify 19 kinds of bugs and six plant diseases the spray is designed to control. Instructions to help assure safe and effective use equip the home gardener with professional know-how.

The efficiency combined in these packaged products well serves to spotlight the new packaging frontiers in the do-it-yourself field, wherein new markets are made possible by making it easy for the consumer, especially the distaff side, to enjoy hobbies once forbidden to everyone except the highly skilled and those engaged in large-scale horticulture or farming.

The label problems for garden and lawn products have always been acute, for some of these chemicals are harmful or unsatisfactory when misused. However, chemical packagers have proved that redesign can straighten out many a complicated label and put the package on the road to self selling. The Dow Chemical Co., for example, has recently improved the labels for its 2-4 Dow and Esteron weed killers. Yet, according to Dow's packaging coordinator, H. W. Bull, "Package design problems will always be complicated in our business. We have a company tradition of restraint and conservatism, and emphasis on quality. We are proud of that tradition and expect to continue in it. Yet

it should be possible to put more enthusiasm and appeal into our labels, within the limitations we thus accept. We are moving in that direction."

That statement fairly well sums up the problems that many chemical packagers have faced and will continue to face. DuPont is another firm that has shown that labeling handicaps can be overcome. One such instance is beautifully demonstrated by DuPont's packages for their Fruit Tree Spray, which dramatize results rather than ingredients—thereby proving that numerous chemical products, no matter how prosaic, need never be lacking in interest or even, to a certain extent, in glamour.

Chemical packages have well proved that they lend themselves to consistent brand promotion. Flit insecticide, marketed by Esso Standard Oil Co., has long been a leader in its field. Its stylized trademark has been a familiar packaging and advertising figure for more than 25 years and its trade name became a household word as the result of its still-remembered cartoon promotion and famous catch line "Quick, Henry, the Flit!"

Flexible protection

The flexible package, too, has steadily come to the fore in the packaging of plant products and, of course, for many other chemical specialties as well. This is true not only in regard to bulk quantities of certain farm or garden chemicals, where the newer laminations, linings and coatings have meant real advances in the use of multiwall bags, but also in regard to flexible containers for quantities ranging from 1 oz. to 25 lbs. The producers and converters of bag and pouch materials have accomplished numerous outstanding technical achievements in finding material combinations to handle chemical products—which from the standpoint of being hygroscopic, toxic, caustic, corrosive or sensitive to light are really tough to package.

The flexible package—particularly for the smaller or unit-of-use sizes—has been a boon to those packagers of chemical specialties who could adapt it to their products. The pouches lend themselves to speedy packaging-line operations, they are light in weight, relatively inexpensive and are practical for display on cards, counters, racks, etc. Moreover, they enable the producer to sell to wider audiences of home gardeners who desire small or trial quantities of a product.

PHOTO COURTESY KINDRED-MACLEAN & CO.

OUTSTANDING DISPLAY is this floor piece used by Dow for its household Saran-Wrap. Holding 72 rolls of the wrap, it permits selling direct from the display. Products like this build good public relations for industry.

Sampling in foil, film, paper and laminated pouches is extremely important in the merchandising of certain chemical specialties, because it is enabling chemical packagers for the first time to reach new customers and thereby win repeat purchases of their products in the larger packages, which traditionally have necessitated the use of more expensive rigid-type containers.

Cleansers

Few if any merchandising fields have shown greater activity in recent years than that exhibited in the soaps and detergents segment of the chemical industry. Here, the main battle for brand loyalties has lately centered around the packaging maneuvers of the various companies. As a result, the consumer has benefitted by a stream of packaging advances that seemingly threaten to exhaust every convenience and efficiency that packages are capable of offering. Yet the improvements keep coming—and America continues to be the best-washed nation in the world.

The phenomenal growth of synthetic liquid detergents has boomed the soap and detergent field and has helped keep packaging in a state of (*This article continued on page 224*)

PHOTO COURTESY MILPRINT, INC.

TYPICAL of explorations of the household market is this 4-lb. cellophane bag of sweeping compound, formerly sold only industrially in 25- to 100-lb. cans.

GLASS CONTAINERS are widely used by the industry, particularly the larger-size stock-design bottles. This typical line of consumer household products is merchandised by Texize Chemicals, Inc.

Design

New Jell-O idea gives better package display in Britain

The difficult problem of appetite-appealing illustration on the small surface of a gelatin-dessert carton has been neatly solved for mass display of Jell-O tablet jellies packed in Britain by Alfred Bird & Sons, Ltd. Instead of trying to get the whole illustration on one carton, the artwork is arranged to show only a portion of a dessert on each carton. When the cartons are combined, these portions are joined to provide good-sized illustrations in display. The British packer is also using a heat-sealed cellophane wrap to make bulk packs of 12 individual cartons. The cartons are collated and wrapped by hand to give a total effect of three complete molds of jelly surrounded by fruit. The multiple units also aid in storing and stacking.

CREDIT: *Cellophane, British Cellophane, Ltd., London.*

3-D glasses built in the front panel of cereal carton

One of General Mills' latest packaging appeals for the youngster market is a Cheerios oat cereal carton with 3-D glasses built right in the front panel which the child can cut out. On the inside of the package to go with the glasses is a 32-page comic book of Walt Disney characters featured for three-dimension viewing. A variety of 24 such comic books is packed with the Cheerios packages. All are available in three sets of eight—with the 3-D glasses—for a Cheerios box top plus 25 cents a set. This free over-the-counter deal, which reached its peak during March, will continue as a mail-in offer printed on the back of the package. Designed as part of the carton, the 3-D glasses are outlined with perforations. Copy points out, "Cut out your Cheerios 3-D glasses on dotted line." The glasses appear as part of a panel, flanked by Disney's Mickey Mouse and Donald Duck, with a reproduction of a bowl of Cheerios between. The panel calls attention to the enclosed comic book.

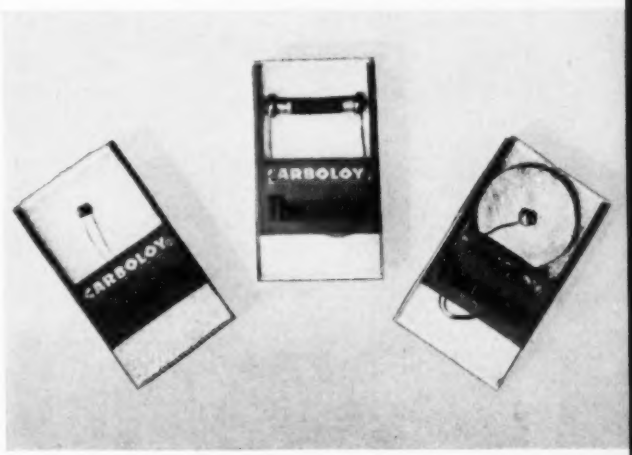
CREDITS: *Cartons, Chicago Carton Co., Chicago; Fibreboard Products, Inc., San Francisco, and Waldorf Paper Products Co., St. Paul, Minn.*

Histories

Protection for pinhead-sized precision electronic parts

With specially fabricated pieces of polystyrene foam the Carboloy Department of General Electric Co. has found a way to give bulk as well as protection and identity to 69 varieties of pinhead-sized electronic components called Thermistors—all in a uniform-sized transparent package. The packaging problem went hand in hand with the company's plan to expand production of these sensitive semi-conductors. A quick glance identifies the package as well as the type of Thermistor. This standard package accommodates the smallest as well as the largest of these products, which is 1 in. in diameter. The Thermistor rests against the block of polystyrene foam fitted inside a cellulose acetate sleeve that carries brand and product name.

CREDITS: *Package, V. W. Busch Mfg. Co., South Lyon, Mich., using Dow polystyrene foam.*



More package unification in the milk business

A uniform package design for the entire line of dairy products is now in use by the Dairymen's League Cooperative Assn., an organization of some 26,000 farmers in the New York-New Jersey-Pennsylvania milk shed. Serving the most thickly populated single market in the world, the association sought to bring the different local brand names together under the Dairylea banner without disturbing established sales. The new cartons, by reason of a distinctive stripe effect, immediately identify the products as members of the Dairylea family, not to mention the fact that they have a new dash of eye appeal. Waxed paperboard containers containing fluid milk products have a basic white color which glows through the paraffin finish as a rich, creamy hue. A second color is purposely dominant so that the customer will associate it with the product, such as royal blue for pasteurized milk and so on. The same design is used for egg and butter cartons.

CREDITS: *Pure-Pak containers, International Paper Co., Single Service Div., New York. Flat-top containers, American Can Co., New York.*

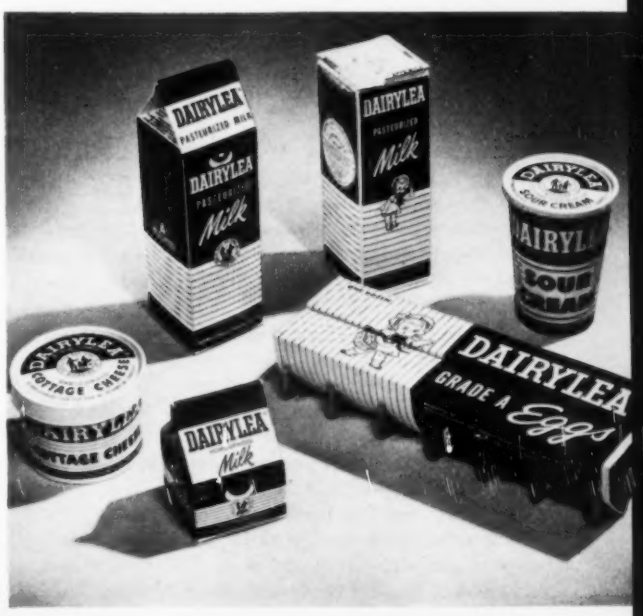


PHOTO COURTESY E. I. DU PONT.

NO LONGER EXPERIMENTAL, the 100% pre-packaged produce department (or as close to 100% as it is possible to get) at a Hillman supermarket in Chicago, is now firmly established. The Hillman organization favors store-level packaging and has successfully introduced production-line thinking into its backroom packaging operation.

Pre-packaged produce today

Its victory is still less than total, but the problems are being sorted out and eliminated one by one with improved methods

Packaging has helped pave the way for the whole successful string of self-service departments in the modern supermarket. Why then has packaging not as yet triumphed completely over fresh produce—just about the last full-grown department that is not 100% packaged?

This question is being raised more frequently today—nearly a decade after the famous first large-scale Columbus experiment conducted in the pre-packaging of fresh fruits and vegetables.[1]

While supermarkets invariably sell some or most produce on a self-service basis, how much is actually pre-packaged has not been clearly established. An educated guess by the Produce Packaging Assn. holds that 2,000 repacker members (grower and terminal-level packagers) in the United States annually supply retail stores with roughly 10-12 billion pounds of produce. Donald R. Stokes of the U. S. Department of Agriculture figures that about 10-15% of the produce grown last year (about 75 billion pounds) was packaged at one level or another. And, he adds, pre-packaging is gaining momentum.

But apparently it is not gaining fast enough to satisfy produce men and there is a movement afoot to give the whole subject a more critical look than it has ever had before. These men—at all levels of packaging—want to know:

1. What shoppers actually think of this method of buying fresh fruits and vegetables?
2. What packaging improvements can be made to overcome consumer negatives?
3. What items are practical to package, which need more study and which should be abandoned?
4. What level is most suitable for packaging different items?

[1] See "Packaged Produce—The Columbus Experiment," MODERN PACKAGING, July, 1945, p. 89.

5. What new materials are available for difficult packaging problems?

6. What new developments can bring production-line efficiency to the backroom of the store?

7. What display methods are contributing to greater efficiency and turnover?

A leading supplier of cellophane recently made a market survey in which 926 housewives were interviewed in four cities.[2] All of the women had access to the supermarket with all or almost all produce ready for self service—packaged when necessary, pre-priced and pre-weighed.

While 45% said that they preferred pre-packaged, self-service produce, 55% had not been completely sold and their reasons are enough to give produce men a good clue to the remedial measures required.

Of those who preferred pre-packaging, 28% found it cleaner and more sanitary; 26% liked the convenience of buying it without waiting and then dropping it in a pan without further preparation; 5% liked the quality and freshness safeguarded by the package.

Among those who voiced some objections to pre-packaging, 36% wanted the opportunity to inspect and choose; 14% said they could not rely on the quality or freshness of packaged fruits and vegetables; 6% preferred loose produce because they could buy the exact quantity desired; 2% thought loose vegetables were cheaper.

Implied in these figures is some consumer distrust of freshness and quality. Progressive retailers who are eager to banish consumer negatives are urged to follow a simple quality-control program along these lines:

1. Scrupulously sort and grade produce before packaging.

2. Don't package off-grade produce, since one bad package can spoil the reputation of all packaged produce.

3. Select the right package for the right product; each produce item presents a different packaging problem.

4. Check produce displays at regular, frequent intervals to assure product freshness; for best control, code package with date.

5. Package a variety of quantities needed to meet most customer requirements.

6. Use a package with maximum visibility commensurate with protection required.

7. Employ trained supervisors to follow through on these points.

8. Sell the advantages of pre-packaged produce in advertising and point-of-sale promotions.

At industry meetings (and there are more of them these days) the

[2] See "The Shopper Looks at Pre-Packaged Produce," available from Film Dept., E. I. du Pont de Nemours & Co., Inc., Wilmington 98, Del.

TERMINAL PACKERS, now estimated to number 2,000, supply many retailers with a large portion of their pre-packaged produce. Packers like Muller Food Co., Jersey City, N. J., stick to items on which they can perform a valuable service such as washing, topping or mixing and which lend themselves to high-speed packaging.

PHOTO COURTESY TYLER REFRIGERATION CORP.

BACK-FILL CASES at W. W. Wilt Supermarket, Elkhart, Ind., eliminate a stocking bottleneck—a big advance over the day when produce was pushed through aisles under shoppers' feet.

UNITIZING is an easy matter with banded trays, as this large chain supermarket has found. Trays, often overwrapped with transparent film, are most frequently used for fancy, select fruit for better display.

PHOTO COURTESY THE DIAMOND MATCH CO.

Hillman's production line techniques

WASHED AND TRIMMED, produce is passed through window into bins on other side of the wall where packaging is done. Large coolers (right) hold produce before packaging and after, when display cases are filled.

TEAMS OF GIRLS work on specified items in accordance with shopper demand. Each station is equipped with scales, labels, sheets and bags, price stampers, hotplates and sealers. Shopping carts remove packaged produce to display area.

PHOTOS COURTESY E. I. DU PONT.

WORK FLOW is made smoother by proximity of display cases to backroom packaging area. Hillman, one of the most advanced pre-packaging operations, is a strong believer in consumer education (see sign).

WAREHOUSE PACKAGING is now being tried for both 5- and 10-lb. loads of potatoes, bagged in durable polyethylene film. The polyethylene bag has made strong inroads into the packaging of so-called "hardware" products in the produce field.

conferees never fail to broach the subject of where the packaging should be done.

At what level?

Produce is now being packaged at three different levels—the grower, the terminal warehouse and the retail store. Produce men quite pointedly are convinced that every commodity will eventually find its own logical level where the packaging can be done most economically, yet offering the best handling and protection. Efficient volume pre-packaging, it is conceded, is a production-line operation.

One school of thought holds that stores which do their own pre-packaging can use sales help advantageously during slack periods. Realistically, a comprehensive program of store-level packaging can't be done on a hit-and-miss proposition. It is felt that this procedure applies only to small operations or to those stores that pre-package only a small amount of their volume.

Those who take exception to this theory reason that the first function of retailing is selling. Wouldn't it be better, they ask, for free personnel to concentrate on stocking cases, rotating stock properly, keeping displays orderly and attractive, assisting customers, working up special promotions and perhaps packaging the more highly perishables such as lettuce?

Why should the retailer bother to package carrots in back of his store any more than he would can them on the premises? The grower or the terminal-level packers, with production-line methods, can perform this operation at lower cost and pass on consistently good quality to the retailer. The retailer's only concession must be his willingness to accept a smaller mark-up, since his own selling and handling costs are really less.

Before grower and terminal-level packers became so prominent, retailers did the packaging themselves in the absence of a suitable supplier. For

the same sensible reasons that retailers today do not handle their own specialties—such as drugs, toiletries and household articles—but turn them over to rack jobbers[5], recent indications are that they will turn much of the produce packaging over to intermediary suppliers.

This, it is urged, would release store personnel for selling. One packaging man observes wisely that there is as much room for improving store merchandising methods as there is for bolstering packaging methods and the two, of course, are inseparable.

Where fruits and vegetables are packaged may not be the basic question. The real challenge facing the industry is finding the right materials and methods that will keep produce salable and speed turnover.

Highly perishable and often fragile produce is not always a snap to package and to protect. Hardy members of the family—apples and potatoes—once difficult to package in conventional films now keep better and sell better in bags of polyethylene or Pliofilm—films which are making a major contribution to the produce industry in handling the weight of so-called "hardware" items—including onions, potatoes, sweet potatoes and yams, topped carrots, radishes, turnips, parsnips, apples and oranges.

More than 50% of the total carrot harvest today is estimated to be pre-packaged in topped form in printed or unprinted polyethylene bags at grower and terminal levels. Topped radishes, almost a rarity a year ago, are now coming on the market in increasing quantities. This development has meant not only a better consumer product, but also a large savings in shipping costs, since the tops are discarded and only the edible product shipped.

Washed potatoes in polyethylene bags are also proving successful. Although washing adds to the packaging cost, Maine's Agricultural Experiment Station discloses that washed potatoes sell rapidly in retail stores where they are offered. Another development, now in its infancy but showing great promise, is the packaging of pre-peeled potatoes in polyethylene bags.

The lettuce question

While hardware produce fares well, there's likely to be a continued headache with other produce—such as fragile, fast-fading lettuce. Some produce experts are of the opinion that it can be packaged satisfactorily at the terminal or warehouse level if good stock is used and it is protected by proper refrigeration, transportation and handling. This is easier said than done.

American Store Co.'s Kearny, N. J., branch, has bowed out of terminal-level packaging of lettuce. Formerly, this chain pre-packaged head lettuce in cellophane one day and delivered it to the stores the very next morning. Despite efforts to select the best lettuce available, proper packaging, quick delivery and store refrigeration, the leaves soon turned brown. This naturally discouraged sales and sometimes meant trimming and repackaging.

Today, American Stores Co. is shipping unwrapped lettuce, outer leaves in place, to its stores. If he prefers, the store manager has the option of packaging on the premises with a sheet or bag of cellophane.

In all fairness, there are two sides to the lettuce question. Studies of the U. S. Department of Agriculture credit pre-packaging with reducing waste from 7.4 to 3.1% on the average head of lettuce. Studies made by a cellophane supplier conclude that waste savings alone will more than pay for the cost of packaging materials.

If store-level lettuce packaging should become established as the most practical, retailers will naturally be interested in buying the best quality lettuce available. Steps now being taken by growers to provide more suitable lettuce for pre-packaging include vacuum cooling and the use of mechanically refrigerated cars.

PHOTO COURTESY STILVANIA.

PRINTED BAGS are giving retailers benefits of informative packaging and identity. Bag on left is example of a stock design; bag at right was custom made for Pick-N-Pay food stores.

Central packaging

When produce packaging is done at the store level, the methods may range from 100% manual to the most elementary semi-automatic technique. Improvisations adapted to the store's needs seem to be the rule. Generally speaking, highly automatic methods common to most industries in packaging today have no equal in store-level pre-packaging, but belong rather to grower-level and terminal-level packers whose automatic and semi-

BASIC PRODUCE PACKAGING — *FLOW CHART*

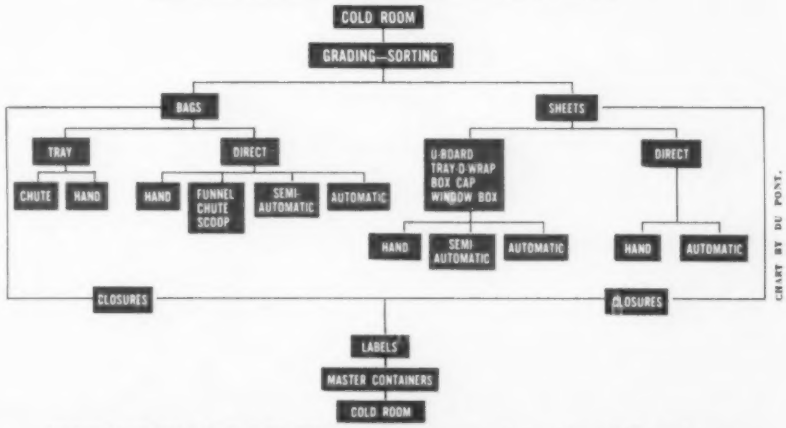


CHART BY DU PONT.

STORE-LEVEL PROCEDURE for packaging produce, adaptable to almost any store, is illustrated by this flow chart, worked out by a film supplier. As the chart indicates, retailer has a choice of many techniques, one step following the other in orderly fashion to save time and motion.

[5] See "The Rack Jobber's Viewpoint," MODERN PACKAGING, July, 1953, p. 81.

PHOTO COURTESY DU PONT.

ASSORTED TRAY of fancy fruits featured by the Star Market Co., Newtonville, Mass. Tray protects delicate fruit from bruising; film overwrap keeps out dust and dirt, stops pilferage and adds a dash of sales appeal.

automatic techniques have been frequently described in MODERN PACKAGING.[4]

A food-store retailer, however, may be many things. He may be a lone operator of a self-service supermarket with a small produce department and proportionately modest pre-packaging facilities. Or his produce operation may loom large like the chains and function similarly to a terminal-level packer.

This latter kind of pre-packaging is usually referred to as centralized or warehouse pre-packaging—by definition, pre-packaging under one roof for several retail stores in a given area. This method is used in limited form by American Stores at its Kearny, N. J., warehouse. One of several zones in the American Stores Co. set-up, the Kearny warehouse distributes to about 160 stores in the Metropolitan New York-New Jersey area.

This chain sees no reason why it should package items for which Mother Nature has provided her own satisfactory package, such as cucumbers and watermelons. Some 42 fruits and vegetables in the Kearny zone are packaged while 36 are not, and many products are sold both in loose and packaged form. Of the 42 packaged items, about 80% are packaged at either the grower, terminal or the chain's own warehouse level. Thus, in the American Stores plan, store managers are free to push sales without having to worry about the technology of packaging production. Whether or not a product is packaged is decided by how well it will keep in a container, the cost and the need.

In the Kearny warehouse, American Stores utilizes production-line methods for a variety of produce items including tomatoes, green beans, peas, waxed beans, apples, pears, onions, oranges and potatoes. Eight production lines are required. These are primarily semi-automatic, comprising tray overwrap machines (for limes and lemons) heat sealers and bagging machines. With the exception of heat sealers and tray overwrapping machines much of the equipment is improvised and from this point of view the operation is very similar to that of the repackers.

Apparently, the centralized warehouse, which also redistributes packaged produce from other levels to the stores, is a system compatible with an organization the size of American Stores.

A diametrically opposite system, relying mostly on store-level packaging, is in effect at Hillman's, Inc., a progressive Chicago food chain of nine stores. Early in the game, the management of this company felt that pre-packaging could be done efficiently at a good gross profit while allowing the company to keep closer tabs on quality. In this operation, practically everything, at one time or another, has been packaged at the store level—including spinach, mushrooms, cranberries, cole slaw, onions, carrots, salads, tube tomatoes and potatoes. Some items are, as in most operations, occasionally purchased pre-packaged from other levels of distribution—such as celery, parsnips, turnips, beets, radishes, apples and potatoes.

Most remarkable about one of the Hillman stores at 2434 Devon Ave., Chicago, is its production-line backroom arrangement. All the modern principles of free-flowing production with a minimum of time and motion have been built into this pre-packaging operation even with manual methods. The only mechanical assistance comes from hotplates and hand sealing irons. The room itself is located behind the selling area to expedite moving produce into the 94 ft. of display fixtures.

[4] See "Polyethylene-Package Maker," MODERN PACKAGING, Nov., 1953, p. 116.

Some outstanding new

PHOTO COURTESY THE TRESCOTT CO.

LOW-COST automatic bagger, in operation at Hove's supermarket, Minneapolis, is highly practical for store-level bagging of potatoes, onions, oranges, lemons, apples.

PHOTO COURTESY NATIONAL CASH REGISTER CO.

LABORIOUS MARKING is eliminated with label printer at Bonham's supermarket, Corpus Christi, Tex., which prints weight and price from rolls and ejects labels.

Removed from a large-sized cooler, fruits and vegetables are passed through small windows and dumped into bins on the side of the wall opposite to the area where the packaging is done. Operators equipped with the necessary scales and thermoplastic labels carrying the Hillman name pre-package the produce in sheets, bags and trays.

Only a few produce items are selected for any single "production run." For example, a team of girls in one section of the room might be wrapping lettuce and celery in sheets of cellophane while another group might concentrate on packaging fancy apples in a tray overwrapped with cellophane. Following the packaging, the produce is placed in bins and removed to the selling area.

Polyethylene bags are used mostly on potatoes, apples (certain varieties that lend themselves to packaging in bags), oranges and onions. Soft fruits and the higher-priced apples, oranges and grapefruit go into trays overwrapped with sheets of 300 LSAT cellophane. No printed material, with the exception of thermoplastic labels, is bought by the store, although terminal-level packages sold by the store carry brand identification.

A semi-automatic method for packaging potatoes, onions, oranges, lemons and apples is used by Hove's Supermarket, Minneapolis, Minn. The machine for this purpose appears to be of growing interest to store-level packagers because of its modest price (about $850). The produce is carried from a large bin by conveyor to bag holders mounted on high quality over-and-under scales. Apples can be fed into bags at one pound per second without bruising and potatoes at two pounds per second. It is estimated that one man working on the machine can turn out about two to three times as much as a hand bagger.

Another example of mechanical assistance in the backroom is a label-printing machine, most frequently found in self-service meat operations,[5] which is now being used for produce by the two Bonham's supermarkets in Corpus Christi, Tex. The machine, which looks like a cash register, is conveniently located next to a scale and imprints weight and price figures on a label from roll stock, according to keys punched, and discharges it ready to apply. Changeable slugs are used to imprint different products.

From all the evidence presented so far, a lot of hard thinking has gone into production methods for packaging in the retail store. In the future, chances are that stores favoring store-level packaging may emulate the Hillman system with the addition of the latest mechanical helps.

One far-seeing supplier of packaging materials has conceived a "basic produce packaging flow chart" (see sketch). It contains the fundamentals of the new scientific thinking from which any retailer could build his own simple packaging operation. Some of the latest trends in store-level packaging are indicated by the chart to show that even the most elementary approach can be a good one.

Basic principles outlined by the chart are as follows:

The produce is first removed from a cold room, carefully graded and sorted. The retailer has his choice of either a bag or sheet for packaging. He may place the item in a tray, slip a bag over it and seal it. Or he may place the item directly in a bag. He also has a choice of a U-board overwrap or a tray overwrap. Or he may want to package the item in a sheet directly.

If he chooses the tray-in-bag package for fancy items, he may place the filled tray in the bag by hand. Or he may use a square-sided chute to slip the tray in the bag. In either event, he may close the bag with a heat seal or with pressure-sensitive tape.

He may place items directly in a bag either by hand, with a funnel, a chute or scoop. Some operators find that celery works better with a funnel, ears of corn with a chute and lima beans with a scoop. Another possibility is a semi-automatic machine which net weighs and dumps the product into a bag held by an operator. Still another method requires an automatic machine which net weighs and dumps the product into a bag formed by the machine, although the cost would undoubtedly make it prohibitive for most store-level operations.

(This article continued on page 238)

[5] See "Meat Today," MODERN PACKAGING, Aug., 1952, p. 85.

backroom production aids

EXPERIMENTAL LOADER is put through the paces at the Economy Markets. Oranges are eased through a chute into bags which rest on a support which serves to take the weight off bags.

LETTUCE IS BAGGED at the Economy Markets stores, two heads to a bag, using operators at this finger-type funnel and a heat sealer for bags.

PHOTOS COURTESY DOBELMUN CO.

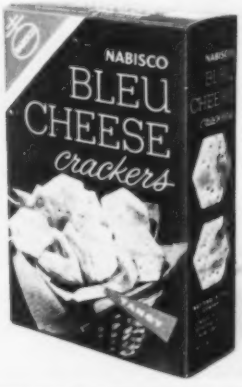
Packaging

1

1 Winner of the recent Fashion Academy Award in the packaging category is this corrugated box, over-all printed in metallic bronze with two other colors, for the Broil Quick Super Chef broiler. The richness of the design and coloring convey confidence in the high quality of the product. Design, Raymond Loewy Associates, New York. Box, Arch-Bilt Corrugated Products Corp., Maspeth, N. Y.

2

2 Ten different cards, each lithographed on one side, realistically illustrate 10 different kinds of the R. R. Pressel Sausage Co.'s luncheon meats and sausage, sold in supermarkets. The cards, waxed on both sides, serve as labels and bottom boards. The card, with the picture side out, is placed on one side of the meat, then overwrapped in cellophane. Package, Milprint, Inc., Milwaukee.



3

3 Vivid hues and realistic illustration of the crackers on this carton for the National Biscuit Co.'s Bleu Cheese Crackers are aimed at pre-selling consumers through appetizing eye appeal. The carton is processed in five colors and varnished. Cartons printed by "Fidel-I-Tone" process by The Lord Baltimore Press, Baltimore, Md.

4

4 Chicken slices for use in sandwiches are packaged in England by Konevale, Ltd., in rectangular metal cans. Slices of chicken meat are first placed in a wide strip of non-moistureproof cellophane; the long sides of the film are folded across the slices to form a protective sleeve, then the sleeve is folded to fit neatly in the airtight can. A direction slip is placed on top of the can, which is then wrapped with a display wrap, then overwrapped with a sheet of moistureproof cellophane. Cellophane, British Cellophane, Ltd., London, Eng.

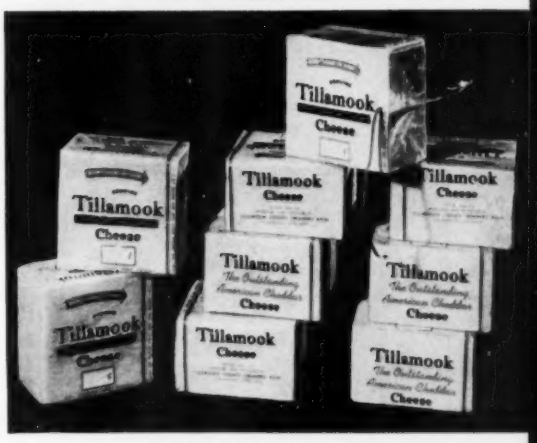
5 Applied ceramic labeling permanently fired on the jar has replaced the paper label formerly used by the Lucky Tiger Mfg. Co. for its Lucky Tiger ointment container. The brown lettering is effective against the opal jars. Harmonizing brown closures complete the package. Jars and closures, Hazel-Atlas Glass Co., Wheeling, W. Va.

5

6 Sales of Tillamook cheese are reported to have jumped immediately when easy-opening tear tapes were added to the printed cellophane wraps used by the Tillamook

Pageant

County Creamery Assn. for packaging its cheeses. The open design of the package, printed in red, white and blue, affords visibility of cheese texture and color. Wrap, The Dobeckmun Co., Cleveland, Ohio.

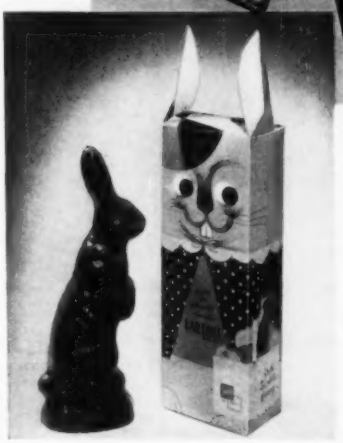


6

7 Metallic copper and black flexographic printing on these heat-sealed flat cellophane bags for Monfort Industries' new Copperchief handkerchiefs is strikingly effective when displayed in food and drug chains, where they are being merchandised. For extra toughness and flexibility, 450 MS-3 cellophane is used. The ventilated pack relieves ballooning of the package. The handkerchiefs come in two grades, packed six or eight to the package, each retailing for 98 cents. Bags, Cello-Masters, Inc., New York. Cellophane, Sylvania Div., American Viscose Corp., New York.

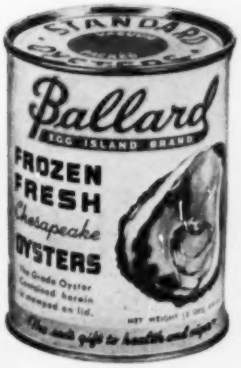
7

8 Specially die-cut and scored top-closing flaps became convex stand-up ears of an Easter bunny on this year's cartons for Barton's chocolate Easter rabbits. All four sides of the cartons pictured a whimsical rabbit. The boxes, reusable as toys, came in three sizes, two with double stand-up ears, the smallest without the special ear flaps. The four-color design in Easter-egg colors featured a rabbit carrying in one paw a Barton basket filled with Easter eggs and chocolate rabbit. Design, Harry and Marion Zelenko, New York. Box, Chaff Printing Co., New York.



8

9 Ballard Egg Island brand of frozen fresh Chesapeake oysters are now being marketed in vacuum-packed metal cans. The 12-oz. cans are lithographed in five colors and each can is stamped on the lid with the grade of oyster packed. The hermetic seal and vacuum are said to give full protection against deterioration and loss of quality normally caused by dehydration, according to the company. Cans, American Can Co., New York.



9

10 Best Foods, Inc., has redesigned its mayonnaise shipping case to expedite warehouse and stockroom handling and to make inventory checking easier. Narrower printed panels on sides of cases allow room above and below for warehouse code marking. Quantity and size of contents are printed in large block letters on the ends of the case for quick identity. Other products made by the company are expected to be packaged in similar cases in the near future. Shipping cases, Owens-Illinois Glass Co., Toledo.

10

ZIP-OPEN BISCUITS

EASY OPENING by just pulling string is making new friends for these quality biscuits. String is embedded in side of tube, which separates cleanly when rip cord is pulled around circumference of package.

If you can't improve the product—improve the package!"

Faced by increasingly competitive business conditions, more and more manufacturers are following the above axiom. In the food field, for example, where constant research and product development by different producers often creates an almost uniform standard of quality, package improvements may provide a vital "plus" sales feature. A package that is easier to open or store, or one that does a better job of merchandise protection, is more likely to find its way into the market basket when there is no apparent difference in product quality between competing brands.

It would be difficult to find a better case history illustrating these points than the progressive packaging program conducted by Ready-to-Bake Foods, Inc., for its Puffin biscuits. Since its founding in 1946, this company has offered a top-quality food product which has been steadily improved through the years. In doing so, however, M. W. Fortney, president of the organization, and his associates have never lost sight of the value of a superior package in building sales and repeat business. Thus the history of the Puffin biscuit package itself is a record of continuing improvement, culminating in the easily opened, highly protective metal-end fibre canister with foil inner wrap and sparkling foil label in which the biscuits are now being sold nationally.

Ready-to-bake biscuits, baked and on the table in a matter of minutes, have been on the market for a number of years. Since they save the housewife much preparation time and assure a uniform, high-quality product, they have enjoyed a steady market growth. Customarily sold from a refrigerated dairy-products display case, the biscuits are stored in the home refrigerator until ready for use, then simply removed from the package and placed in a hot oven. Unfortunately, however, the matter of removing the biscuits from the package has often been anything but simple. Despite the obvious advantages of the product, many consumers are said to have been discouraged from using it because of the difficulty of opening the package and extracting the biscuits in usable condition.

The problem may be illustrated by citing the original package in which Puffin biscuits were sold. This was a tubular spiral-wound fibreboard container with metal ends, carrying 10 ready-to-bake biscuits within an inner foil wrap and clearly identified by means of a "two-way" paper label which could be read easily whether displayed upright or on its side.

The package, with its distinctive white, yellow, red and blue label, was attractive, took up a minimum of space and did a good job of product protection, but it had one drawback: it was hard to open. To get at the contents, it was first necessary for the housewife to pry the metal top partially off the can with a hook-type opener. Then, using the top of the can as a handle, she had to unwind the spiral fibreboard container. With the can unwound, the final step consisted of opening up the inner foil wrap and removing the biscuits for baking. This somewhat involved procedure was enough to discourage many housewives from giving the product a trial in their kitchens.

In October, 1952, Ready-to-Bake Foods took an important step toward more convenient packaging. At the company's main plant in Los Angeles, the basic container, incorporating a

Puffin's tear-string canister with sparkling foil label is latest in a series of packaging advancements by this company

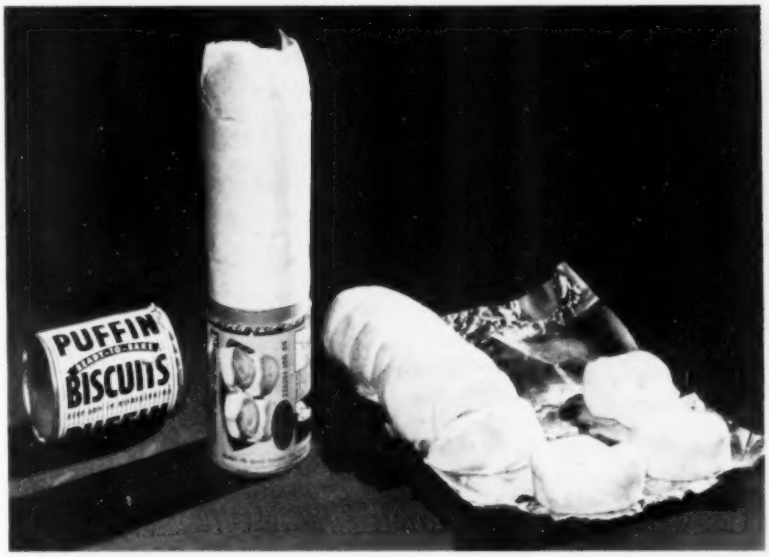
convolute-wound rather than spiral-wound construction, was improved by the addition of a rip-cord opening device which eliminated the need for a can opener or any form of manual gymnastics to get at the contents of the package. By simply pulling the string around the container, the composite can separated readily at approximately the center, so that the top portion could be lifted off.

The zip-string feature, which thus made its first appearance on a product of this kind, has been used successfully on a wide variety of food and non-food products. It is accomplished by manufacturing the container walls so the string is embedded in the side of the tube, which separates cleanly when the rip cord is pulled around the circumference of the package. As the can walls separate, mating shoulders are left on the upper and lower halves of the package so that it may be securely reclosed if necessary. Such containers are shipped to the manufacturer with the outer label already applied and the metal bottom in place, ready to be filled from the top and sealed by crimping on the top.

At the time that Puffin introduced this new package feature, the front display panel of the two-way label remained unchanged, except that a bold blue arrow was added, with the words, "zip-open," to direct the user's attention to the end of the tear string. This arrow was superimposed across the colored product illustration, which showed four baked biscuits ready for the table. On the horizontal or back panel of the label, the principal change made at that time involved three line drawings illustrating the method of opening the canister. Copy accompanying these illustrations was terse and specific: "1. Pull string completely around container. 2. Pull container apart and remove inner package. 3. Open inner wrap and separate biscuits for baking." Further copy on the back panel consisted of baking instructions, followed by the list of ingredients. The *Good Housekeeping* seal, appearing in two places on the label, was carried over without change.

Ready-to-Bake Foods lost no time in extolling the virtues of its new package feature as initial distribution got under way in the Southwest. In mid-1953, as promotion was stepped up, large-space newspaper ads were run highlighting the convenience features of the improved container. These ads hammered home the point that all drudgery associated with the original package had been eliminated. As a typical ad put it:

"So easy to open—Puffin's own patented package gets rid of the mess, work and bother of hacking or prying! Just pull the string . . . remove the foil-wrapped Puffin biscuits . . . put



EXPANSION of biscuits, which start rising immediately the package is opened, is provided for without rupturing inner foil-parchment wrap by accordion-type fold formed automatically when inner foil wrap is cut off and shaped prior to insertion in outer container. At right, contents of another can are ready for oven on removal from package.

DESIGN EVOLUTION: Original containers (left) had no opening device, used two-way label for either vertical or horizontal display. With change to tear-string package, principal design change was arrow flagging convenience feature and opening instructions. Next improvement was horizontal band designating opening direction. Foil label on present package (right) adds display impact. All packages use foil inner wrap.

them in your oven and—9 minutes later—enjoy the lightest, whitest, tastiest biscuits ever!" The newspaper ads, which included large illustrations showing the tear-string feature, emphasized the convenience angles of the package itself, with secondary mention of the product, whose quality reputation had already been firmly established. Also keyed with the newspaper ads was a new counter display unit drawing attention to the new "zip-open" feature.

Although this package marked a long step forward, further improvements were not long in coming. In the next mechandising move by Ready-to-Bake Foods, the outer printed wrapper was slightly modified by transforming the large arrow on the front panel into a horizontal blue stripe made up of repetitive arrows, clarifying the point that the string is drawn all the way around the package to open it. Encouraged by the market response to the revised package, the company last August saturated Dallas, Tex., and a large southwestern area with blanket advertising coverage on the new zip-open package. Then, at a time when many companies might have been content to rest on their laurels, Ready-to-Bake Foods played its trump card—a redesigned aluminum foil label.

Company officials were convinced that the foil label, supplementing the foil inner wrap, would not only enhance the protective properties of the package, but would contribute added sparkle and merchandising appeal. In the change-over, the basic design and color scheme were retained and certain modifications made in the interest of increased merchandising utility. The biggest change designwise was a swing to horizontal treatment of the entire label. This was predicated on the fact that merchandise of this type is now customarily displayed on its side rather than in a standing position. Gleaming foil backgrounds now give added emphasis to the opening instruction drawings, while the top half of the package is set off by a series of horizontal bands. The new package, in full color, has been recently featured in such prominent consumer publications as *Good Housekeeping*. Television film commercials have also been utilized to dramatize the easy-opening feature of the package. Cans carrying the new label are now being distributed by all four Ready-to-Bake Foods plants—at Los Angeles, Calif.; Charlotte, N. C.; Dallas, Tex., and St. Louis, Mo.

On the Puffin biscuit package no reclosure is usually necessary, since all of the biscuits are used when the container is first opened. This being the case, a primary advantage of the sturdy fibreboard canister is its ability to withstand any outward pressure exerted by the biscuits. When removed from refrigerated storage and opened, the biscuits have a natural tendency to begin rising. In order to prevent them from splitting open the inner foil wrapper, this part of the package is now made with an ingenious accordion-type fold which takes up this expansion and permits the inner package to expand in length without popping open. A considerable amount of research on the part of the company and its suppliers went into this feature of the package.

In the original Puffin biscuit package, the parchment-backed foil for the inner wrapper was supplied in precut sheets. Packaging-department workers manually shaped the wrapper into tubular form over mandrels and inserted them in the open-top tubes. In today's package, this operation has been more highly mechanized.

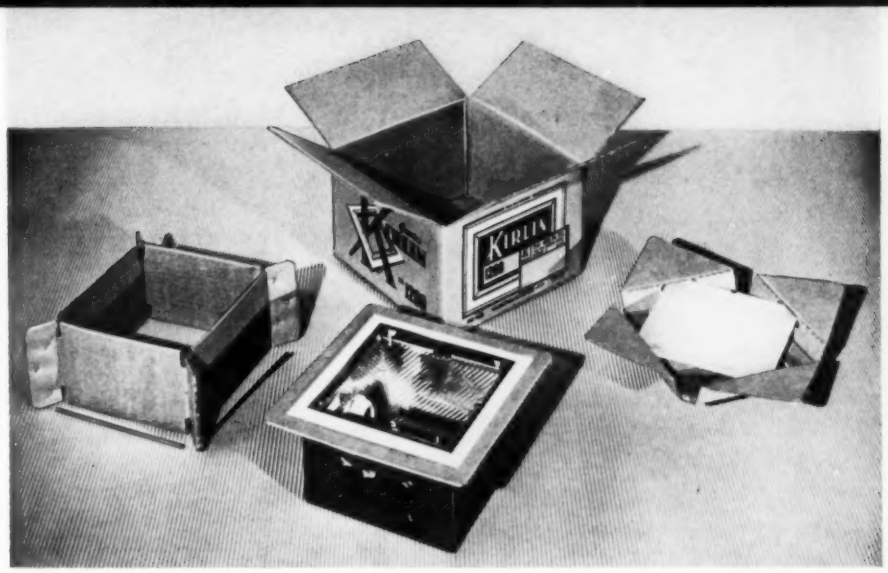
As the dough for the biscuits emerges from the mixer, it passes through a sheeting operation and biscuits are stamped out automatically, moving via conveyor to the packaging section. Operators pick up five biscuits in each hand and place them on a mandrel past which the cans move for filling. Fed from a continuous roll, aluminum foil is cut into sheets and formed around a solid mandrel. In this operation, the accordion fold is created and the bottom of the foil wrap is folded closed. The open-top tubes are slid down over the inner wrapper and the mandrels withdrawn, after which 10 biscuits are transferred into each package from the loading mandrel. The cans then move via conveyor past another machine which folds down the top of the foil wrapper, crimps the metal tops in position and stamps a code date on each lid.

Thus the completed packages, as they emerge from the production line, represent the highest point yet attained by the company in point of container construction, label material and design, and consumer convenience.

However, Ready-to-Bake Foods has still further improvements in the offing. It is now planning to make use of the inner foil wrapper for recipe suggestions which could not be placed on the outer container without severe crowding. Under the present plan, the recipes will be printed continuously on the rolls of inner wrapper material, so that four complete recipes will appear on each wrapper.

STORE DEMONSTRATIONS dramatized the "zip-open" feature, which quickly won over housewives, who formerly hesitated to purchase such biscuits because of the difficulty in opening the package.

CREDITS: *Tear-string-type composite containers, Sefton Fibre Can Co., 3275 Big Bend Blvd., St. Louis, Mo. Outer foil labels, Lustour Corp., 7 N. Brentwood Blvd., St. Louis, Mo. Inner foil wrappers, Western Waxed Paper Div., Crown Zellerbach Corp., 2101 Williams St., San Leandro, Calif. Equipment for forming aluminum foil liner and closing outer container, Angelus Sanitary Can Co., 4900 Pacific Blvd., Los Angeles.*



INTERIOR PIECES include housing (left) to protect fixture; collar (center) to prevent shifting; pad (right) to protect the delicate reflector glass.

Safe shipper

Specially designed interior packing protects delicate lighting fixtures, saves 25% in packing time

Good "life insurance" for fragile merchandise is reported by the Kirlin Co., Detroit, with the adoption of new specially engineered corrugated shipping containers to assure safe arrival of recessed lighting fixtures to the firm's 1,400 distributors in the United States, Hawaii and South America.

The boxes offer not only effective protection, but are reported to net a 25% savings in box assembly and packing time.

The packages, engineered in cooperation with the supplier of the boxes, are comprised of a one-piece, die-cut shipper and corrugated interior packing pieces. One of these—a rectangular collar—is slipped on the lighting fixture during assembly to prevent the item from shifting in the box. Another acts as a pad for the fixture's reflector glass. And a third protects the unit's metal box.

A series of pre-shipment tests by both the supplier and Kirlin cleared the box for all means of shipment—truck, rail, air, railway express and mail—and Kirlin dealers report that the products are arriving in unusually clean condition, without breakage.

A three-color exterior is another new feature of the fixture boxes. Black and white printing on silver board highlight the impressive Kirlin identification to make the box an attractive shelf package.

Actual packing of the boxes takes place at the point where the lighting-fixture assembly line meets the box assembly line, but preliminary steps on both sides precede the packaging operation.

Box set-up is simply a matter of folding the one-piece shipper into position and stitching the top shut. The cover of the box is stapled first and the fixtures loaded through the bottom to facilitate packing of the interior packing pieces. On the other side of the department, corrugated collars are installed as the lighting units roll toward the point of packaging.

At this point the units are put into the boxes, glass down, and protective pieces inserted. Box flaps are closed and stapling completes the operation.

Although Kirlin fixtures differ in size and shape, making several box sizes necessary, this same packaging pattern is followed in all cases.

PACKING is done as boxes, pre-assembled with interior packing, move along conveyor. Collars on fixtures prevent units from shifting.

CREDIT: *Corrugated shipping containers, Hinde & Dauch, 407 Decatur St., Sandusky, Ohio.*

Getting the decanter out front

Foil and velour have been combined in this luxurious-looking point-of-sale display to spotlight the Stitzel-Weller Co.'s "Old Fitzgerald" Diamond Decanter. Designed in a modern free form, the simple die-cut and scored paperboard display holds an actual decanter, which in itself is a striking example of design simplicity. A sloping emerald-green velour background acts as a mounting for the graceful bottle. The lithographed reproduction of an ornate gold key resting on a white calling card is die cut and mounted on the velour. On the card, the words, "Your Key to Gracious Giving," are in black script. Curving behind the bottle, around its side and to its front, a shining gold-colored foil crescent highlights and reflects the decanter, giving it a dazzling golden aura. Across the top of the crescent runs a die-cut lithographed red ribbon from which is suspended a reproduction of the "Old Fitzgerald" shield-shaped medallion. The use of foil and velour gives the display the distinction which the company feels that its product deserves.

CREDIT: *Display, Milprint, Inc., Milwaukee, Wis.*

DISPLAY

Golf ball displayed like a jewel on the counter

A dramatic setting for the United States Rubber Co.'s new Diamond Cover marked golf ball is this jewel-like counter display made of transparent polystyrene plastic to resemble a faceted diamond. The diamond design of the unit carries through the idea of the golf ball itself, which has over-all diamond markings on its cover. These markings, based on the principles of aerodynamics, are said to give greater lift and carry to the balls.

The display is injection molded in three parts consisting of a base, a bottom half and a top.

The unit holding the golf ball is shaped like a faceted jewel. It is molded in two halves so that there are 12 reflecting prisms in each half. The two halves are cemented together and facets are given a reflective silver vacuum-plating treatment which reflects the golf ball in 12 different mirrors. A hole is drilled into the golf ball, which is permanently attached to a royal-blue velvet-covered base set into the prism.

The base, higher in back than in the front, tilts the unit forward for display advantage. Sell copy, which appears only on the front panel of the base, is confined simply to the company and product name.

The entire unit is compact and light in weight. Its "jewel-box" appearance creates an eye-catching point-of-sale display when placed on the store counter.

CREDIT: *Display, Cowan Boyden Corp., Providence, R. I.*

To dramatize a new razor

A die-cut and scored paperboard counter unit points up the features of Eversharp's new Hydro-magic Schick injector razor with its automatic cleaning feature which the company is promoting as "the first major improvement in any shaving instrument in 17 years." The inner platform is die cut to hold three of the plastic kits and six boxes of blades. Bottom of the carton is fitted with an easel and the top of the carton folds back for display of the eight-color-printed design carrying a reproduction of the razor, sell copy and price marking. The polystyrene blade kit, made in three pieces in a multicavity mold, is molded to extremely close tolerances for proper friction fit. The transparent top is metal hinged to the black base of the kit. The inner platform, molded of white polystyrene with openings to hold razor, blades and instruction leaflet, carries the Eversharp Schick Injector name molded into a slanting piece of polystyrene that is part of the inner platform.

CREDITS: *Display carton, Samuel Barnett Co., New York. Plastic kit, Atlantic Plastics, Inc., Stamford, Conn.*

GALLERY

Permanent plastic counter display for stationery

This neat plastic counter unit, recently introduced by the White & Wyckoff Mfg. Co., manufacturers of social stationery and greeting cards, provides stationers, department stores and other dealers with a convenient method of merchandising stationery.

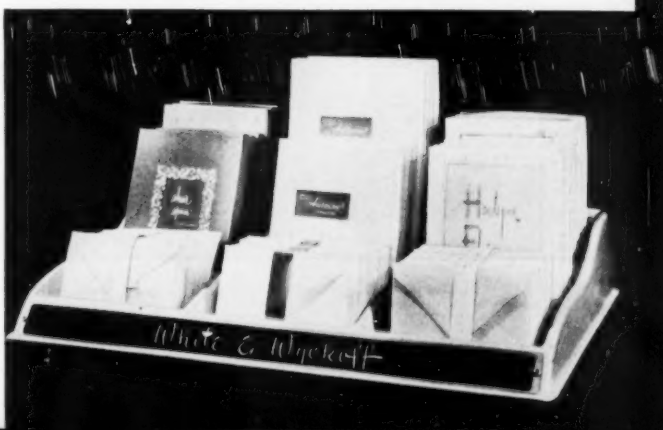
Designed to hold a variety of open-stock paper and envelopes as well as boxed stationery, the new counter merchandiser is molded of a polystyrene alloy material in a delicate shade of French gray with a leather-like finish. The front of the display features the White & Wyckoff name.

The plastic material used in the unit was selected, it is reported, after considerable engineering research on the problems of appearance, durability and cost. Its decorative surface is reported to be highly resistant to impact and abrasion as well as chipping or cracking. It may be easily cleaned by wiping with a damp cloth.

The material is reported to be readily molded on low-cost molds, making production costs nominal. Its light weight makes the display inexpensive to ship.

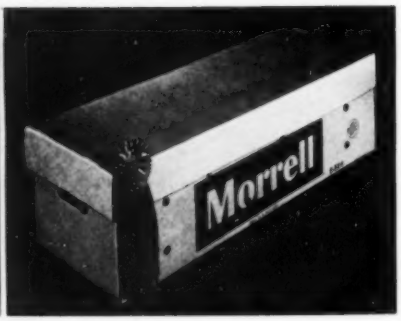
The display comes in two sizes. The one illustrated, measuring 26½ by 14½ in., weighs 3½ lbs. A similar display in a smaller 9½-by-13¾-in. size weighs only 1½ lbs.

CREDITS: *Display made by Mercury Plastics Corp., Chicopee, Mass., using Bolta's Boltaron 6100 material.*



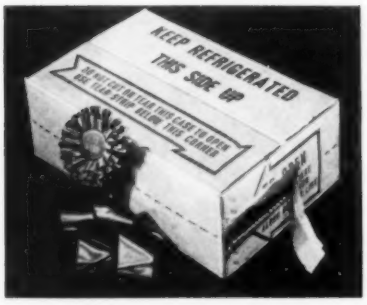
TRENDS

Fresh fruits & vegetables



Meat, poultry & eggs

Best in 17 Fields



Miscellaneous food products

Examination of the 17 first-prize winners in the Fibre Box Assn.'s 1954 competition provides an interesting review of outstanding recent developments in design, construction and economy in the fibre-box field. Throughout the list of 72 award winners, there is evidence of activity toward new, large-volume end uses and of increasing ingenuity in the use of custom-designed platforms and dividers for greater product protection.

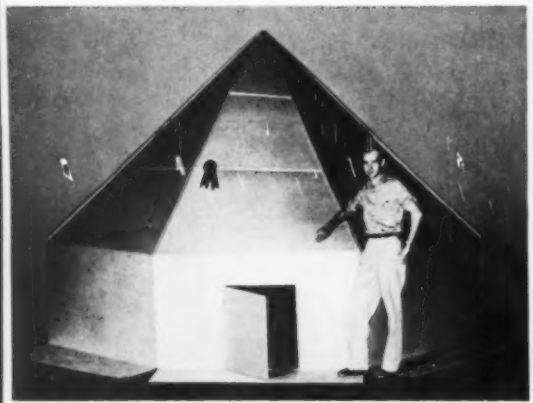
Clarence F. Smith of Inland Container Corp., chairman of the Fibre Box Assn.'s competition committee, awarded prizes in the 17 different classes at the association's recent spring meeting. A record 311 entries were submitted by 41 member box manufacturers to a panel of five

Textiles & wearing apparel

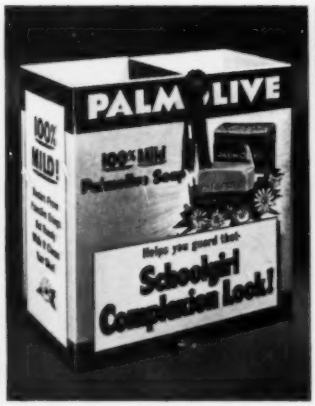
High-density products

Small appliances

Large appliances



Military developments



Surface design & printing

Carry-home packs

IN FIBRE BOXES

Makers' awards for outstanding achievement in 17 categories of use point up new potentialities in this field

judges. First, second and honorable-mention awards were given on the basis of the following points: whether the development was a new use or conversion within the two-year period from Jan. 1, 1952, to Jan. 1, 1954; the potential market; technical superiority, and practicality of usage.

The competition has as its purposes: stimulating development of uses of corrugated and solid-fibre boxes and board in new fields, furthering use in established fields, giving recognition to individual companies in the association for achievements and provide an opportunity for members to view the latest advances in the field.

The 17 classifications were established as representative of the principal end-use fields served by the fibreboard industry. First-prize winners in each class follow:

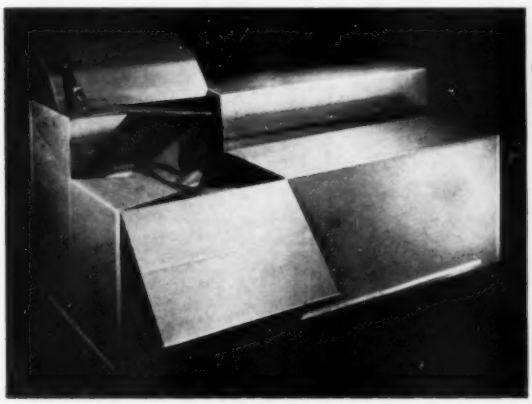
Fresh Fruits and Vegetables Outer Shipping Class: Container for tangerines, manufactured by the Union Bag & Paper Corp., New York. Potential of this shipping container for the Florida citrus industry is figured at 125,000,000 sq. ft.

Meat, Poultry and Eggs Class: Container for pork loins, manufactured by the Lawrence Paper Co., Lawrence, Kan., for John Morrell & Co., Ottumwa, Iowa.

Miscellaneous Food Products Class: Container for individual cheeses, manufactured by Waldorf Paper Products Co., St. Paul, Minn., for the Purity Cheese Co.

Textiles and Wearing Apparel Class: Container for men's suits, manufactured by American Box Board Co., Grand Rapids, Mich., for

(*This article continued on page 244*)

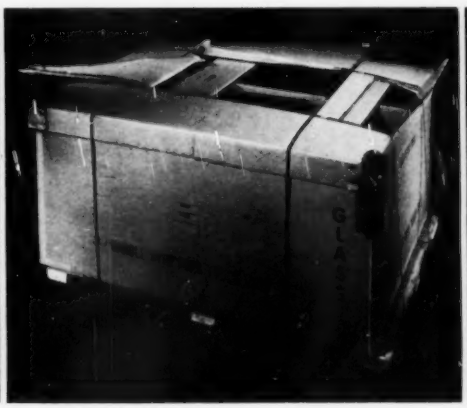


Furniture & home furnishings

Floor stands & displays

Miscellaneous products

Distinctive features

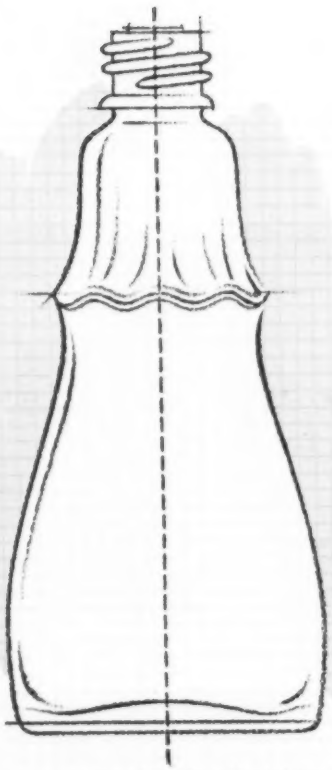


Palletized products, unitized loads & bulk packs

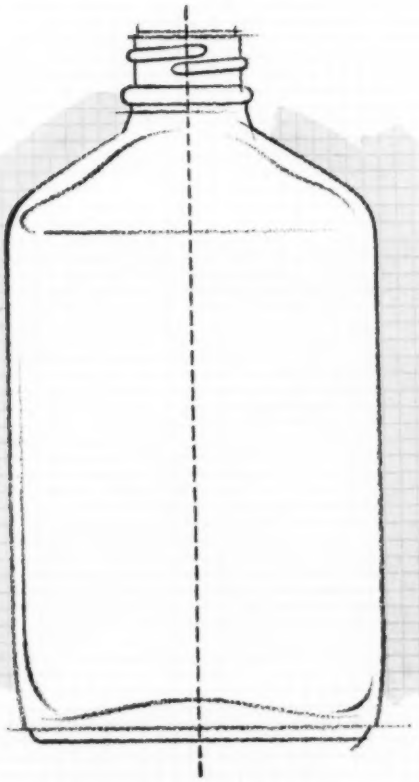
Articles made from corrugated or solid fibreboard

Inner packing & inner containers

How is a glass

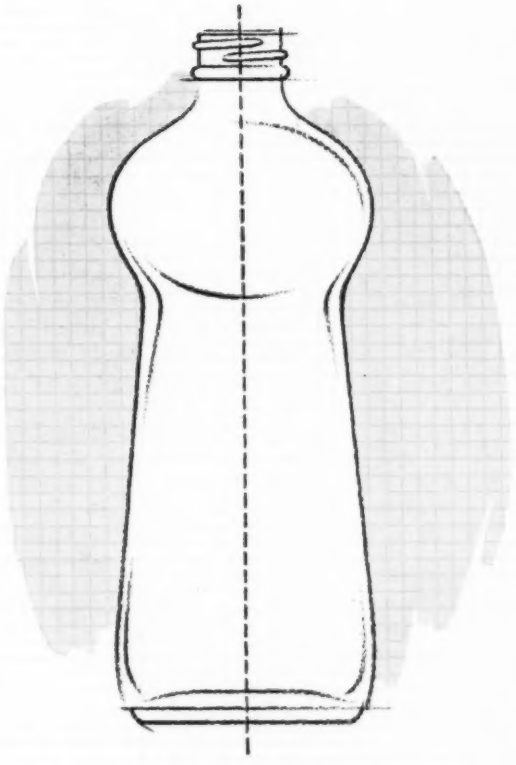


It may be born of the talent of its designer to picture the virtues of a product by the grace and beauty of its container.



It may be born from necessary emphasis on the protection of its contents from every outside influence.

Salespackage born?



It may be born because a special convenience to the user is needed to insure satisfactory performance under difficult circumstances.

That successful glass salespackages are so consistently developed by Owens-Illinois is no accident . . .

It is the result of systematic research into the problems to be solved and the objectives to be reached in the creation of each Duraglas® SALESpackage by specialists in design, engineering and marketing.

The best answer to your packaging problem may come from a single factor in the birth of a new Duraglas Container, but is more likely to evolve from a combination of many skills. Ask us to demonstrate how Owens-Illinois' abilities can be focused on your problem . . . container, closure, label design or carton.

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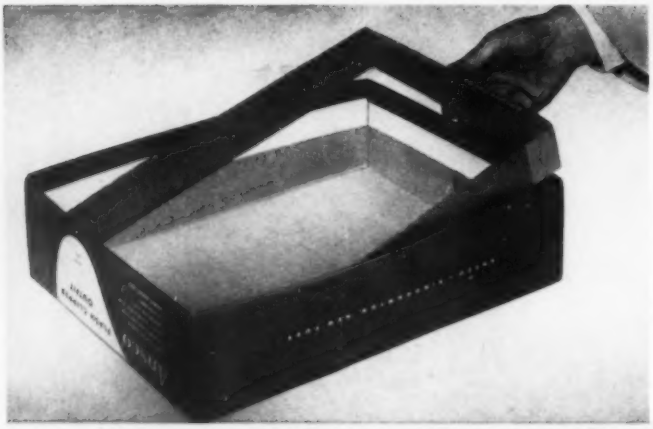


CORRUGATED COLLAR slipped inside box cover provides a stop when the lid telescopes the fitted platform base.

BASE SECTION is similarly set up on forming machine, then fitted with die-cut platforms and wells as shown.

For the complete photographer

Ansco's in-plant box forming reduces packaging of sets to a five-a-minute assembly-line routine

An entirely new packaging and merchandising trend, which is reported to have revolutionized photographic sales, became noticeable shortly after the end of World War II, when Ansco, Binghamton, N.Y., introduced a whole series of packaged camera outfits.

Ansco claims to have pioneered this method of merchandising cameras with film and accessories, its experience actually going back to just before the war when it found an immediate market acceptance for a kit designed for the young "Amateur Press Photographer." Wartime conditions, however, forced abandonment of the idea and it was not taken up again until 1949.

Today's Ansco camera outfits, as devised by the company's merchandising and packaging experts, contain camera, camera case, flash attachment, flash bulbs, film and, in some instances, special gadget bags. Retail prices of the complete kits now range from $9.75 to as high as $50.

It is simply another example of the recent trend toward component packaging—putting all the necessary ingredients for a finished end product in a single convenient package to encourage the consumer's follow-through whether that end product be a cake, popcorn* or snapshots.

Component packages are usually not simple packages and the story of how, in Ansco's case, this volume operation has settled down to a highly systematized, mechanized, low-cost, practical procedure on in-plant set-up, platformed boxes makes an interesting case study.

Merchandising thinking

First, the reasons why it was found desirable to adopt this relatively complex type of container as a regular production package.

There were two main reasons: first, outfits made it relatively easy for the photo dealer and druggist to increase his sales volume without increasing his selling effort—he was able to profit on the sale of a complete kit containing between five and 10 items in no more time and with no more selling effort than was required to sell a camera alone. Clerk selling efficiency was greatly increased.

The second principal reason for the introduction of complete camera outfits was to encourage the camera hobby by providing the customer with a properly selected assortment of all his basic picture-taking materials and equipment in one handy package—easy to carry, easy to use and easy to store. The purchaser of an Ansco Camera Outfit is prepared for all types of pictures, whether by daylight or synchronized flash, the minute he leaves the dealer's shop. This promotes the consumption of photographic film, which of course is the company's prime objective.

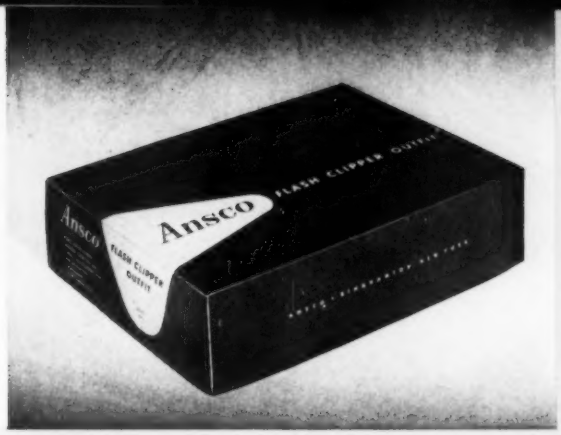
Packaging, therefore, became the runway upon which Ansco's postwar merchandising was launched.

In 1949 Ansco resumed its activity in the field of camera outfits with its popular Junior Press Photographer Outfit, owners of which were identified with an impressive "Junior Press Photographer" badge and card. This was a suitcase-style set-up box, covered with leatherette paper, with ribbon-hinged lid and integral carrying handle, with two die-cut platforms for flash bulbs, badge, film and batteries.

So enthusiastically was this youngster's kit received that Ansco proceeded immediately to design a whole line of camera outfits for the general market, beginning with outfits in simulated-leather kits.

The basic principle of the kit was a

* See "Component Package," MODERN PACKAGING, March, 1954, p. 140.



BOX COVER, printed in the familiar Ansco colors clearly identifies the set enclosed.

FINGER PRESSURE activates hydraulic press that sets up boxes and covers. Keeping pace with packaging line, two such machines have enabled Ansco to cut container storage space, handling and transportation costs 92%.

sound one, but, as is so often the case, there were many problems to be solved before it could be made entirely practical in production. Package design, manufacturing capabilities and storage space were the physical obstacles. Competition, market research and sales-promotion techniques were other challenges.

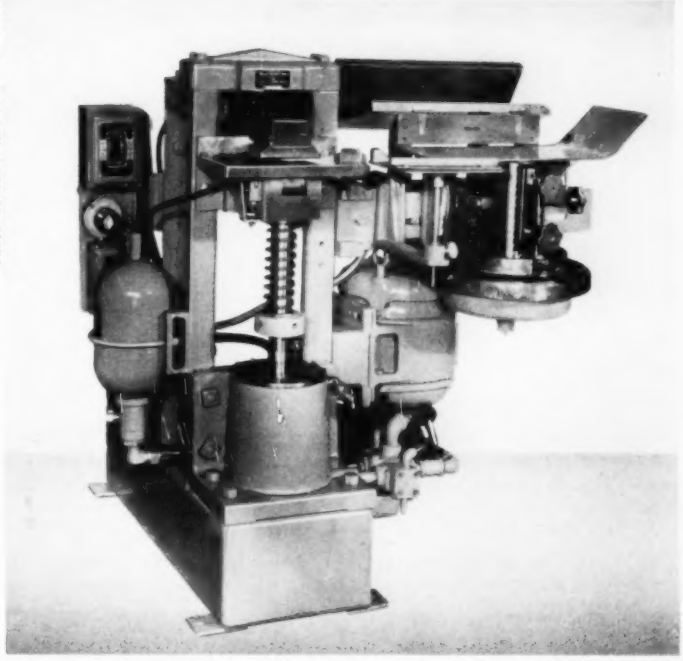
Ansco artists and designers were called upon to prepare camera-outfit packages that would offer high utility value to the purchaser and practical, useful display for the storekeepers.

After the designs had been created, the problems of manufacture and assembly were assigned to Ansco production engineers. It was their job to produce a package which not only incorporated designed-in sales appeal, but one that would stand handling and shipping. Furthermore, it had to be a package-at-a-price, for costs were rigidly controlled.

The new program began to take its present shape in the 1953 season. The camera outfits brought out by Ansco for 1953 were assembled in more conventional paperboard platform bases with telescoping lids set up from folding stock. Display function was retained by supplying dealers with counter models having clear acetate covers; the covers not only enhanced and protected the display, but acted to safeguard the contents against pilferage.

Ansco production engineers had to find a way of supplying a large volume of the paperboard-kit boxes in such a way that production would move along swiftly and efficiently. All of them required die-cut platforms that would hold the various elements of the outfit securely during shipment

PHOTO COURTESY HOAGUE-SPRAGUE CORP.



OVER-ALL VIEW of compact 4-by-4-ft. box-forming machine. Box blanks are supplied from the magazine at top right, passed over the vertical roller located just below to pick up glue on flaps, formed up quickly by hand and the joints pressed on hydraulically activated anvil at the left. The machine has a wide size adaptability and the forming die can be changed from one size to another, it is said, in only one minute.

ORIGINAL KIT was this 1949 Junior Press Photographer suitcase style.

LATER VERSIONS of Ansco kits used simulated leather containers, which were more costly, slower to handle and wasteful of container storage space.

and present them attractively for display. Some of the larger kits required boxes as large as a man's suitcase.

Production solution

The key to present smooth production is a semi-automatic box-forming machine—long familiar to the shoe industry, but relatively new elsewhere in the packaging field—which sets up and glues both the box covers and the bases from flat blanks. This produces a sturdy box with double-folded glued ends and sides.

The base section of the box has a two-step rim all around; the lower rim contacts a corrugated liner ring placed by hand in the box lid and holds the lid clear of the contents of the platform. The paperboard platform is placed by hand in the base. The platform is die cut to receive smaller items such as films and flash bulbs and, in the more-expensive sets, has rigid-walled cells to hold heavier items such as camera, case and flash gun.

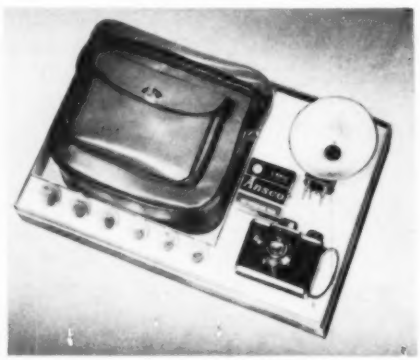
Three simple steps set up either the lid or the base section:

1. The flaps are passed through vertically positioned rollers which automatically apply a controlled amount of glue to the inside surface.
2. The box is formed up by the operator by hand and the glue-moistened flaps folded into place in simple motions.
3. The glued joint is made permanent in an automatic press fitted with a pressure plate accommodating the size of the joint. Finger pressure activates the machine as the blank is held in position.

The simplicity of the machine, which occupies floor space of only 4 by 4 ft., makes it possible to handle a wide range of box sizes. Box sizes used by Ansco run from 12½ by 8 by 5¼ in. to 18¾ by 12¼ by 4¾ in. Actually, the machine has a capacity of from 2½ to over 20 in. in width; ½ to 7 in. in depth and a minimum length of 4 in., with the maximum length unlimited.

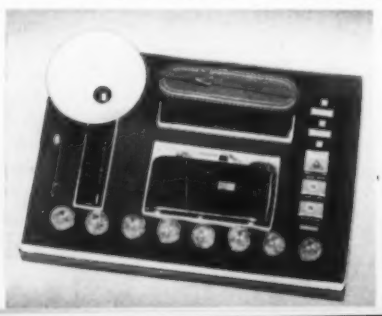
The important point to Ansco is that in-plant use of two of these machines, permitting purchase and storage of flat blanks rather than set-up boxes, has reduced container storage space by 92%. A similar savings is claimed for handling and transportation costs.

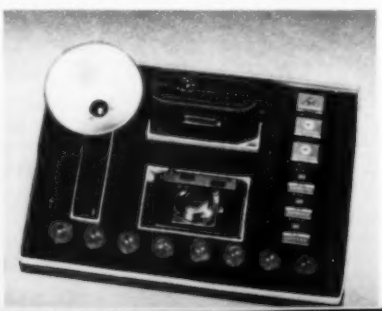
The machine has been found extremely simple to operate. After a "very short" training period, according to Ansco officials, one operator can produce up to 300 box halves per hour. It is necessary only to change the forming plate to shift from one size or style of box to another. Change-over time is said to be not over one minute. The machine has no gears, applying pressure hydraulically with a force up to five tons.



PRESENT FORM of box, which is economically produced and easier for the retailer to display, first made its appearance in 1953.

1954 LINE includes these higher-priced outfits. Camera sets selling at up to $50 use this economical type of packaging with great success.





CREDITS: *Model BM-33 Hoague-Sprague carton-forming machine leased through, and box blanks supplied by, F. M. Howell & Co., 79-95 Pennsylvania Ave., Elmira, N. Y.; machine manufactured by the Hoague-Sprague Corp., 130 Eastern Ave., Lynn, Mass.*

23rd National PACKAGING CONFERENCE and Exposition

More visitors than ever before had attended any industrial exposition in Atlantic City's famous Convention Hall streamed through the doors and through two solid floors of colorful exhibits at the 23rd National Packaging Exposition last month. When the four-day show ended on April 8, a total of 24,304 registrations had been rung up. This broke all records at Atlantic City not only for the Packaging Show, but for any closed-registration exposition in the 30 years of the hall's existence.

Attendance was very close to advance estimates by the American Management Assn., sponsor of the Exposition and Conference. Bad weather during the first two days kept it from going even higher.

Shows in metropolitan centers always draw larger crowds and the all-time record of 27,700, set last year in Chicago, still stands. But otherwise this year it was the old record-breaking story of this great annual event of the packaging world: More exhibitors (362, as against 342 last year), more exhibit space (125,000 sq. ft. as against 121,000 last year) and certainly a more avidly interested crowd than ever had been seen before.

Next year it's back to Chicago and plans are already being made for a show that should dwarf them all. At a meeting of the Exhibitors Advisory Committee in Atlantic City it was announced by the Exposition management, Clapp & Poliak, Inc., that an enormous addition to Chicago's International Amphitheatre has been started and will be completed in time for the 1955 Packaging Exposition, which is set for April 18 through 21. The addition alone offers an exhibit floor of 180,000 sq. ft.—more than is available at Atlantic City—and it will be used in direct connection with at least one of the five existing rooms which together have another 240,000 sq. ft. This puts an end, for 1955 at least, to fears that the show may be growing beyond the limits of available exhibit space. In 1956 the show will return to Atlantic City.

Richard Wellbrock of New Jersey Machine Corp. was elected chairman of the Exhibitors Advisory Committee to succeed Flloyd L. Triggs of Riegel Paper Corp., who had served a two-year term.

Among the new rules adopted by the exhibitors for 1955 was one barring all give-away souvenirs, including bags and boxes. It was agreed also that next year, for the first time, the show would open at 10 a.m. each day, with closing hours remaining the same as this year.

Registrants and exhibitors generally agreed that in quality of exhibits, on the one hand, and in quality of attendance, on the other, this year's show set a new standard. Buying interest reflected the general trend in industry toward putting more things in more and better packages. It was evident at the show that almost every branch of the packaging field is still expanding, contrary to the general business index.

Impressions drawn from the kaleidoscopic scene included some highlights on which most visitors agreed: a trend to molded plastic items of a practical nature; many new uses for transparent films, with particular new emphasis on polyethylene; great interest in vacuum-formed plastic sheet; more color and finer quality in printing of both boxboard and film; increased attention to window cartons and many important developments in machinery in the directions of increased speed, wider applicability and greater automation Protection-wise, it was obvious that research is beginning to lick even the toughest of product problems through improved coatings and laminations.

Showmanship among exhibitors reached a new high, with the larger companies turning to bigger and more elaborately prepared booths in an effort to create a standout impression. Many visitors commented upon the spaciousness of the aisles and exhibits, which made it possible to accommodate as many as 10,000 visitors in a single day without undue crowding.

As one evidence of the state of business in the packaging field, Robert T. Foreman of R. A. Jones & Co., president of the Packaging Machinery Mfrs. Institute, reported at the show that many members of his industry are operating at the highest level since the war, with order backlogs also at a new high. Machinery shipments this year will be 11% above the average of the 1950-53 period, Mr. Foreman predicted.

In assuming the chairmanship of the exhibitors for next year, Mr. Wellbrock will serve with John A. Warren of American Home Products Corp., who continues as AMA vice president in charge of the Packaging Division and as head of the Packaging Planning Council which each year arranges the Conference program held in conjunction with the Exposition.

Registration for this year's Conference, which had morning and afternoon sessions on the first two days and closed with a morning session on Wednesday, was reported in excess of 1,100. Three of the five sessions were devoted to one-company panel reports on their own packaging programs, presented by Sears, Roebuck & Co., Monsanto Chemical Co. and Kraft Foods Co. A fourth session presented three case studies in industrial packaging by Sperry-Gyroscope Co., Carrier Corp. and SKF Industries, Inc.

Lawrence A. Appley, president of AMA, served as chairman of the opening Conference session, which was devoted to the more general aspects of the packaging situation.

The condensed report which follows gives the substance of each speaker's remarks during the five conference sessions:

MONDAY MORNING

Chairman: LAWRENCE A. APPLEY, *President, American Management Assn., New York; assisted by* A. DOUGLAS MURPHY, *Packaging Coordinator, Standard Oil Co. (N. J.), New York.*

What's Coming in Packaging?—JOHN A. WARREN, *Packaging Consultant, American Home Products Corp., New York.* With the trend to speedier packaging lines to reduce costs and lessen finished-goods inventory, the demand for better quality and uniformity is being met by suppliers with increased research and service, said Mr. Warren, who outlined developments in leading fields as follows:

Cans. In 1953 can manufacturers shipped 38 billion metal cans. The research programs of the can industry are striving constantly to make cans available for more products and to reduce costs. In an effort to conserve or eliminate tin, can manufacturers are developing and using organic coating compounds and side-seam cements. Some of these compounds are applied

over tinplate and others are enameled to blackplate. The results are encouraging, as witnessed by the production of motor-oil cans from blackplate with cemented side seams. Organic coatings will widen the market for the tin can, permitting more products to be packed. The coatings are now applied to sheet stock.

As the demand increases and production-handling knowledge expands, we may expect the coating to be adhesed in strip form. Steel coated with some resins can be deep drawn and these resins can be surface coated to steel which will protect it before it has been shaped.

Due to research of a can company, the new low-pressure cans and valves were created. The drawn and concaved-seamed bottom can with the domed top will dispense a host of new products and the growth of this new industry will surprise many with the advent of new automatic pressure-filled equipment.

Aseptic canning is a process that may affect can specifications, and the cans for some sizes and products may probably be made of lighter base weight tinplate. The end-over-end agitating cooker principle obtains maximum heat penetration when the can is turned end-over-end in its rotation around an external axis of relatively short radius at a speed producing a centrifugal force in the can equal to gravity.

Cold sterilization of canned foods by ionizing radiations has been publicized recently in a national magazine. Though this process shows promise, it has been stated that thus far irradiation sterilization has not demonstrated any clear-cut advantage over heat sterilization.

Aluminum cans are under vigorous research. Cemented side-seam cans are being tested. It is my personal observation that aluminum cans will not be a serious threat to tin cans until the price differential between aluminum ingots and aluminum sheet is narrowed to the same proportion as that between steel ingot and electrolytic tinplate. Drawn aluminum cans are available, but I cannot understand why they are not cheaper. The spread between a drawn aerosol tin can and a soldered can for aerosol is under $1 per thousand.

Glassware. We may expect greater uniformity in the production of glassware with the installation of better physical control of glass processes. We will have more exacting adherences to functional specifications. Glass containers for the aerosol pressure-type products should be available this year and the producer states that there will be no hazard in their handling.

Collapsible tubes. The use of this popular-type container will increase with the application of new resins for coatings. The installation of ovens with heat capacity up to 450 deg. F. and with dwell time within the ovens up to 9 min. will permit tube manufacturers to use a greater variety of resin coatings.

Cartons. With users demanding 90% or better efficiency on high-speed cartoning lines, board mills will produce paperboard of more uniform caliper and weight. More and more carton plants are introducing effective quality-control systems within their plant operations. The finer printing surfaces of patent-coated and clay-coated boards will reflect in more highly decorated cartons with intense competition for the customer's eye. More process reproduction will be used by merchandisers and they will have the advantage of rotogravure combined with litho and letterpress application and high-speed, five-color letterpress. The boxmaker has learned to use gloss inks with special surface boards.

When high tensile and tear requirements must be met, or where a container will have rough handling, the paperboard mills are now producing a sheet with kraft, or kraft scrap findings in the finish. This board has a bursting strength of 8 lbs. per 0.01 of caliper or a 0.020 sheet would have a Mullen or Eddy bursting test of 160 lbs.

Foil-laminated board with good protective properties for moisture and grease is finding use as a package in which the product itself is processed. Bakers are using foil-laminated board cartons for brown-and-serve rolls.

There is active investigation of the use of hot melts for protective coatings and decorative effect of extreme high gloss in the carton field. The application of the hot-melt in rolls, sheets and individual blanks is being investigated.

Labels. Industry is familiar with delayed-action heat-seal labels, which are tack free until heat activated. With the introduction of automatic labeling equipment and manual applying units, this type of heat-activated labeling is growing more popular where waterproof and permanent bonds are desired.

Solid boxes. The solid-box industry is now converting from batch manufacturing to continuous-line production as the result of new machine developments. Continuous boxmaking will mean lower costs for set-up boxes and better boxes.

Corrugated cases. Cases lined with paper or plastic bags are being used to ship flour, lard, granular and viscous products. In the place of fluted corrugations, a sheet has been introduced with honeycomb-type separations between the liners. This honeycombed sheet is being used successfully for pallet decking and inner packing where strong, unyielding cushioning is indicated.

Films and laminates. Today, films are the quickest-growing branch of packaging. Film manufacturers will have to devote more research to the handling and machining of their products. The laminator and convertor of films must recognize that printing and lamination should be a science and not an art. The machine designer must engineer his equipment to handle the available films with their present shortcomnigs.

Polyethylene I have found to be the best sealing compound when you handle a micronized product on fast unit-packet machines and as a laminate when you need a limp sheet for pillow-type packages. Further developments in transparency, printing quality and machine performance of this useful film are indicated. May I stress, however, that there are too many variations in the quality of poly film now being produced. Some sheets are superior to others.

Saran film's outstanding chemical resistance is adaptable to lining fibre drums and for cap liners with products containing essential oils. Some work has been done in the processing of food with saran packages. There are some things to be desired in saran film, such as control of the film sealing on high-speed packaging machines due to its critical heat-temperature contrast. However, this phase is being worked on and improvements are appearing in recent shipments. The improved low-temperature saran film should add new users.

Mylar is the latest product of DuPont that is arousing great interest. The reaction products of ethylene glycol and terephthalic acid have been formed into a transparent and highly flexible film. Among the properties of this polyester film are: insensitivity to moisture, resistance to solvent and chemical attach, a dielectric strength greater than almost every known insulating material, a range of thickness of ¼ of a mill (0.000025) to 7½ mills (0.0075 in.); an operating temperature range from minus 60 deg. C. to 150 deg. C. Mylar has a tensile strength one-third that of machine steel. Prices at present range from $3.55 to $4.80 per lb. With more users, I am sure this price will come down.

With the growth of self-service merchandising, the use of film will continue to grow, since in this type of retailing the package is its own best salesman.

I believe there is a great future in the new vacuum-formed plastic package. Inexpensive plastic molds are used in vacuum-formed processing.

There are many interesting machinery developments in engineering research and in shake-down stages.

A new rotary pre-measured filler is being tried out on a liquid production line. It has possibilities, in my judgment, if it is used for only one or two products. Evidently, the automatic thermoplastic labeling machines have been accepted by industry, for there are now several other companies entering the manufacture of equipment for thermoplastic labels in both roll- and spot-label form.

There are both mechanical and hydraulic torque controls being built into one of the national CT automatic capping ma-

chines. A new straight-line, high-speed capper is now on trial in two large manufacturing plants. One unit will run 88 mm. caps at speeds up to 300 a min. and the other unit will handle various sizes of caps on the same unit—cap sizes running from 10 to 88 mm. The speed of this machine is approximately 200 per min.

In the cartoning field we will see within the next six months two new simple semi-automatic cartoners and also one automatic cartoner with some new engineering devices for handling all types of cartons.

In the make-up stage is a new fast automatic machine for the making of individual packets with speeds estimated to be up to 150 packages per min.—the filling and forming on the machine done in two stages.

Also under development are two new processes for decorating plastic bottles. One is a photographic process scheme and the other is direct transfer of decals.

The next five years should be very interesting ones for the packaging industry and I predict that we will see radical changes in both the can and film-producing industries.

Where to Find Tomorrow's Packaging Executives—J. COLLINS COFFEE, *Partner, Management Development Associates, New York.* We are just becoming aware of the breadth of experience in a packaging career, Mr. Coffee stated. The packaging specialist must know marketing, manufacturing, engineering, purchasing, plus the basic psychology of what makes people buy. Top management in mass distribution industries will come increasingly from the pool of men who have had packaging experience.

He continued by pointing out that companies, schools and young people have a terrific opportunity to jump on the packaging bandwagon that has been created by new materials. impressive technology and an unprecedented standard of living.

There are two keys to finding tomorrow's packaging executive, he said. First, his technical education and experience must equip him with a sound basic knowledge of packaging know-how. This is complicated by the fact that there is no one type of packaging specialist. The demands of a packaging vendor, a user or a design firm all differ. Schools must provide the basic knowledge and orientation required in all these areas.

Secondly, the qualities and skills which differentiate the packaging executive from the specialist who does not rise to the executive level are no different from those required of executives in other areas.

A packaging executive is basically no different from any other executive. If he has the basic intelligence, drive and technical background, he then needs to learn the techniques, skills and procedures that make him a successful manager.

Successful executives must have in common: (1) workable methods for approaching new situations; (2) a means for appraising staff proposals made in areas with which the executive is not familiar; (3) an ability to deal with every sort of situation; (4) a means for convincing superiors that he is in command of the situation, and many other different skills and techniques.

Mr. Coffee explained the administrative shortcomings on the part of top management and on the part of the individual which lead to problems—the basic causes which have given rise to the symptoms of the executive malaise.

The speaker spelled out the specific responsibilities on the part of the schools, industry and the individual for the development of tomorrow's leaders.

He enumerated the administrative procedures and controls essential to a successful program of management development.

Today a young man is foolish who joins a company which has no program for his development and many college and graduate-school counsellors are cautioning against this. The leading companies cannot afford the risk of failing to develop tomorrow's top executives; neither can the promising individual risk his future with a company which has no plan for the growth of the individual with the company.

With a series of charts, Mr. Coffee explained some of the tools presently used by Management Development Associates in developing top-flight managerial talent.

MONDAY AFTERNOON

How Sears Put the Sell Into Retail Packages—(Panel Discussion).

Chairman, FINDLEY WILLIAMS, *Manager, National Store Planning, Package, and Display, Sears, Roebuck & Co., Chicago, Ill.*
Panel members: C. W. HARPER, *Manager of Packaging and Labeling;* G. R. BERGER, *Head of Basic Research and Development;* MISS C. VON HUBEN, *Visual Merchandiser, Soft-Line Department;* W. G. WARREN, *Copy Chief, Packaging and Labeling Division.*

Mr. Williams: Because we operate our own stores and, to some degree, some of our own factories and plan our own fixtures in relationship to the merchandise offered, we are in a unique position of being able to guide and direct Sears packaging techniques with the customer in mind. We at Sears study packaging deeply in order to have it perform its normal day-to-day function in today's new accelerated type of shopping.

Merchandising of consumer goods is entering into an era of transition—forced by change in customer buying habits and the decentralization of populations from coast to coast. People are moving away from heavily populated cities and into the suburbs. The shopping areas are following this movement to the wide open spaces. In other words, we are faced with bringing the store to the customer rather than waiting for the customer to visit the store.

The outlying store depends almost entirely upon the automobile for its traffic. This imposes terrific traffic jams during night shopping hours, since in most cases Pop has the car in the daytime. Naturally, it is impossible for a retail store to staff its selling personnel to the point of handling this peak period traffic. Therefore, just as the food industry discovered many, many years ago, we must rely on the ability of the item itself to sell itself during these heavy peak selling periods through self selection. Self selection means the exposure of a maximum amount of merchandise in open-type merchandise presentation designed to allow full access by the customer so that he can see, feel, select and remove the item from the display. No longer can we enjoy, even though we would like to, the opportunity of our salespeople meeting our customers face to face to negotiate every transaction. This would seriously limit our potential and, under today's conditions, increase our selling expense beyond all reason.

The trend towards self selection is doubly important to Sears because we have this problem: we do over half of our business in less than 12 hrs. of the week—that is, on Saturdays and during night openings. Customers actually outnumber our salespeople by as many as 10 to one during these rush hours. Many of our customers enter our stores, list in hand, with definite ideas as to the merchandise they intend to purchase. They are usually in a hurry and intend to complete their purchases quickly.

Since our customers want to buy more quickly and since self selection seems to be desirable from the customer's standpoint, it accentuates the necessity of a sharper, more direct approach to the packaging and labeling program.

Our existing stores are just so large, our selling floor space is limited and the fixtures on that selling floor have certain definite sizes. This limited space must be put to the most productive use possible if we are to receive the greatest dollar return per square foot. So, we must match space to volume, fixtures to space and finally merchandise to fixtures, thereby establishing our definite limitations and restrictions.

It is the wedding of the fixture and the package that leads to more sales, more profits per square foot and more convenience to our customers. Wherever possible, fixture conditions

should be taken into consideration before packaging an item. We realize that a great many manufacturers do not have the opportunity to fit their packaging to fixtures. The wide variety of outlets and fixturing conditions makes this difficult.

Sears has a definite advantage here—that of working with known fixture sizes and conditions because our wall and floor fixtures have been standardized in all our stores. Our tables are all the same size except for height. They are standard for some very obvious reasons, the most important of which is that the greatest per cent of our varied lines of merchandise, regardless of type, size and shape, can be satisfactorily presented to our customers on this standardized equipment and in open display. This not only encourages, but makes easier customer self selection.

(Following Mr. Williams' introductory remarks, the panel discussed individual packaging problems which the organization has tackled.)

Mr. Warren: Into the highly competitive market of paint thinner and turpentine came a new product—Tirpolene. Essentially it is another paint thinner. Our job was to introduce the item and sell through the label alone. So the message had to convince customers quickly that Tirpolene was both different and better, that it not only was a paint thinner, but did other jobs as well. We told all the benefits in our selling copy, benefits which seem obvious, benefits usually taken for granted, but benefits that customers want to know about. The back of the can keeps right on selling like the front, with more helpful information. We know that customers buy when they have all of the facts and all the reasons.

Miss von Huben: Hosiery offered us a different problem. This merchandise was still sold across the counter, which required personal service for each sale. We felt that some sort of customer self selection was necessary to improve our service, but we were somewhat hesitant because it meant changing our customers' shopping habits as far as hosiery was concerned. Our low-priced numbers were not sharing the increases enjoyed on all higher-priced merchandise. This seemed to be a natural place to start some form of self selection. The problem of packing this hosiery was turned over to Mr. Harper and his staff.

Mr. Harper: We had a coordinated box design for all Royal Purple hosiery, so we applied the same basic design to a new cellophane package. White was used as a neutral and isolating frame around the window to go with all hosiery shades. The four color bands at the top of the package are used to differentiate between four styles for ease in stock keeping and counter interest. This simple and inexpensive unit presents a wrinkle-free, single pair of hose with a limited window area that emphasizes hosiery sheerness and quality. The big problem was to keep the hose from slipping and wrinkling when the package was displayed vertically. This was solved by using special paper stock inserts to hold the hose in place. Heavy cellophane was selected for the envelope because of the life expectancy and handling qualities. The upper left corner was to be imprinted by the manufacturer to indicate hosiery style, size, length, shade and gauge specifications for easy customer selection.

Miss von Huben: This packaging was offered to several stores on a test basis. A simple fixture was developed for open selling. Hosiery was sampled on a revolving stand as a further aid to selection. Copy cards were keyed with color bands and identifying features that referred to the packages. Results have been most successful. Our service has improved and stores have reported up to 300% sales increase on these packaged numbers. Indications are that sales of our higher-priced hosiery have either held their own or have shown increases.

Mr. Berger: Frozen-food packaging is a necessity to freezer owners, since the correct type of packaging is vital in preserving precious frozen foods. Salespoeple were rarely approaching our customers to sell these items, because this is relatively low-priced merchandise. And since it is offered in a "big ticket" department, it is only human to be more interested in selling freezers and refrigerators than packaging materials. A quick survey of this situation showed that with existing packaging we had a customer-selection problem which we needed, of course, to correct.

Mr. Harper: Frozen-food packaging consists of many items of different sizes, shapes and materials. They all are related through one common purpose, protection of frozen foods. By and large, the construction of our packages is not much different from that used in the industry. In redesigning, we have eliminated the industrial feeling that existed in our previous packaging. The new packages are designed to permit customer self selection. Our dynamic format demands customer attention. It provides space for illustration, quick product identification, dominant brand name and plenty of space for instructions.

Mr. Harper: Next, we had a home barber kit that was one of the best—though our sales didn't indicate it. Customer reaction was very light. And we felt that packaging could do much to help the sales of this item. The original package looked much like a small shoe box, whereas it should have suggested quality. Our solution was a combination folding and set-up box with variable trays to hold the clipper head, comb and scissors. The box is constructed to serve as a storage box for one year under normal conditions. This means that its design must wear well with the customer and leave a good impression for a longer-than-normal period of time. The design is therefore quiet and suggestive in its contents, with quality of appearance an important factor. The cost was just 31 cents in relatively small quantities as compared to $1.55 for a metal box. This 31 cents included the instructions.

Mr. Warren: In selling more barber kits, our primary efforts were to include instructions that make hair cutting easy, understandable and practical, both for men and women. Our step-by-step instructions were developed by several writers who, in this case, expanded their talents to include home barbering as well as writing. We felt that the current high price of hair cuts would give sufficient urge to buy and our instructions would do the rest.

Mr. Harper. Like everything else, there are several breeds of packages. Perhaps the most critical is the gift package, because it so heavily influences holiday and seasonal sales. We believe that Christmas packaging has strong institutional value that reflects the quality and the character of the company and sets the pace for holiday buying in our stores. Our 1953 Christmas boxes were rendered in traditional colors with readily identified Christmas ornaments to transform ordinary merchandise into gifts. They displayed our company name and reflected it on most every product that we sold, from a half dram of perfume to a pressure cooker or fur coat.

Individual merchandise problems received special attention. Sheets and pillow cases, and towel ensembles are only a few. Here the problem is to make a $1.98 towel ensemble look like a good gift; but the $5.98 unit must look even more desirable. Size, special construction, material, feel, trade-up and novelty have to be built into these units. It must all be done for a price, but they must all look like a "million dollars."

The gift packaging of sheets, pillow cases and towels does not say "Christmas" any more than it says "Mother's Day." They must serve Santa, St. Valentine, the Easter Bunny, Mother, the June Bride and any other female who becomes engaged or has a birthday.

To accomplish this, we are limited to omnibus design and we use recognizable objects and pleasing shapes on our special gift packages. Color is, of course, a matter of taste. It will vary with the character and quality of merchandise and requires careful, commercially sound selection. This type of packaging is important because it makes the most of a valuable sales opportunity.

Mr. Williams: For years on end, other forms of advertising have had a distinct effect on packaging. What we said in our ads was normally transferred to our labels or packages. Since buying action at the point of sale is our real goal, it is more logical that we start our selling theme there, then carry our point-of-sale message into our other forms of advertising and display. Obviously, this is a complete reversal of usual proce-

dure; however, this follows our practice of developing packaging and labeling from the customers' point of view.

In Sears' business, informative tags and labels are equal to, if not more important than packaging. Tags represent silent salesmen working for us constantly. They can be of great help in the salesman's absence or can support his personal selling efforts.

A tag, seal or label actually offers a selling opportunity and a follow-through responsibility. Positive identification and helpful information in the form of customer benefits are used to good advantage. These tags, seals or labels have the ability to tell the story with authority. This consistent selling story doesn't depend on the moods, memory or mannerism of the salesperson. The customer can carry home a printed assurance plus complete instructions for use that will mean greater satisfaction from the purchase.

The responsibility of the labeler tag lies in its cautions, warnings and other limiting information. This is intended to prevent possible misuse by the customers. The exposure of any company to public liability should always be cut to a minimum through proper care and use instructions.

There is no one form that we use for labeling. We suit the label or tag to the particular item. Visually, we support what we say with a design or illustration in keeping with the character of the merchandise.

TUESDAY MORNING

Packaging Is a Coordinated Effort at Monsanto—THOMAS P. CALLAHAN, *Manager, Packaging Development Dept., Monsanto Chemical Co.*

Our Organization and Our Approach—Mr. Callahan explained that Monsanto has set up under the direction of Purchasing and Traffic a staff department called the packaging development department. This department has a manager and an assistant manager who, with their assistants, service all divisions of the company by: (1) periodic visits to the manufacturing plants for consultation and help in connection with packaging problems; (2) attendance at various technical committee meetings to propose and discuss many problems connected with packaging and labeling as they may affect the entire industry; (3) keeping abreast of all existing legislation concerning regulations, state and federal, relating to packaging and labeling.

As a staff department covering all divisions of the company, the packaging development department guides and augments divisional packaging work. Each division has qualified men who handle packaging problems relating to their own activities within their division. It is through the coordination of the packaging men in the individual plants with the staff packaging development department that the ultimate goals are attained. Responsibility, however, for any individual package is a division or plant responsibility.

Teamwork in Packaging Development—ROBERT D. MINTEER, *Assistant Manager, Packaging Development Department.* The function of the packaging development department at Monsanto is threefold. The first part is the development of the most economical package for the transportation of a new product. In doing this, consideration must also be given to the preparation of proper labeling. The second is the changing of existing packages either to reduce the packing cost or to make the package more convenient for the customer. The third is the development of fundamental package research, such as the use of new lacquers for lining steel containers, evaluation of new plastic materials for corrosive products and the development of one-time shippers to replace returnable containers.

The development of the package for two typical products illustrates in detail the various steps which are required in Monsanto's packaging development.

The package development department first receives a notification that 50,000 lbs. of a product are going to be produced in one of the pilot plants. Along with this notification is a form giving physical properties of the material.

From this brief list of physical properties it is known the material will remain a free-flowing solid under conditions of transportation, that it could be placed in a fibre container without meeting I.C.C. specifications and that it would need no moisture protection. It is also calculated that 100 lbs. would pack into a standard 20-gal. drum and 200 lbs. into a 40-gal. drum.

Before proceeding any further to design the container, the development department waits for a report from the medical department. The report on this particular product shows the material is not toxic by standard definitions and will not cause irritation to the skin. Package development is then able to confirm that the container does not have to conform to specifications for toxic or corrosive chemicals.

At this time the department is ready to report to the sales department that the material can be packed either in a standard fibre container with no moisture barrier and with no special label or in multiwall bags. It is also pointed out in this preliminary recommendation that 100-lb. units in fibre drums would cost 1.2 cents per pound, 200-lb. units cost 0.9 cents per pound and that multiwall-bag packing would be approximately 3 cents per pound.

Sample bags were then obtained and filled on a portable packing machine. The final bag size and specification was written and turned over to purchasing so that a supply of bags could be obtained.

Engineering provided for automatic bag filling and palletizing so that, when this product was finally placed on the market, the actual packaging cost was only 0.3 cents per pound, whereas the same material packed in rigid containers was 1.2 cents per pound. In addition, the customers was able to receive the material in convenient 50-lb. units.

The following is a typical example of a liquid product to be used in the insecticide field. Package development received notice the material was to be made in one of the pilot plants and specifications for it indicated that it was a liquid, noncorrosive to metal, with a specific gravity of 9¾ lbs. per gal. and a flash point of over 300 deg. F. It was also noted that the material was expected to be toxic.

While waiting for the toxicity report from the medical department, package development started tests in the laboratory to determine what liner, if any, would be needed for the steel container. Using the test-cup procedure, it was found the material did not attack the iron and did not become discolored in contact with iron.

The medical report indicated the material was highly toxic and would be classed as poison, Class B, under I.C.C. regulations. This necessitated the use of a 55-gal., 18-gauge, 17E drum. However, because the material was highly toxic by skin contact, we decided that we would use a 16-gauge drum for additional safety.

The container specification for this particular product was a relatively simple matter, but before shipment could be made, an adequate warning label had to be prepared. Since the material was going into the insecticide field, it was necessary to prepare a label showing the true chemical name of the material, the percentage of active and inactive ingredients, and adequate warning and precautionary statements.

However, shipment could not be made until the labels had been registered with the U. S. Dept. of Agriculture and the various states into which the material was to be shipped.

Teamwork in Purchasing—CARL SVOBODA, *Purchasing Agent, Organic Chemicals Div.* Instruments available to the purchasing agent to insure his getting the maximum value for the packaging dollar and also plug leaks that might drain savings already realized through efficient purchasing are: specifications, inventory control and standardization. One is equally as im-

portant as the others in the role of minimizing expenses and all work as a team in this achievement.

Containers, which formerly were a secondary consideration, are today playing major roles in insuring sanitation and freshness as well as winning sales through the provision of convenience.

All these accomplishments are developed through the imagination of the package engineer, who is creating more and more convenience for the public.

The container cost can only be fully appreciated by the manufacturer whose production is highly competitive and container costs must be held to an absolute minimum.

Specifications are the purchasing agent's bible and are the chief source from which savings materialize. They are a base from which to operate when they are well written to ward off any possibility of misinterpretation that might permit components of inferior quality or poor workmanship.

A progressive manufacturer will in most cases have a product that has not only been tried and tested, but incorporates all up-to-date modifications. Simple changes can effect savings. Hot-dipped galvanized drums cost up to $2 more than black iron, yet the black iron will substitute for the galvanized through the application of one or two coats of the newly developed high-bake synthetic coating at about 50 cents a coat—a sizable saving if it will do the job.

Inventory control is another avenue to cutting expenses. The maintenance of heavy inventories has proved to be a liability rather than an asset to most concerns and is a problem recognized to the extent of large corporations assigning a man full time for its effective supervision.

Aside from the market trend and assuming that business will be constant, it is unwise to work with huge inventories if your production is subject to technical changes. A powder today, perhaps a liquid tomorrow, or the change need not be that drastic but merely a change in the percentage of ingredients which is printed on the package—and the value of the container is reduced to scrap per ton.

Standardization is probably the most outstanding and effective road to effect economies because it automatically minimizes specification problems, as well as those surrounding inventory. It reduces the vast number of sizes and kinds of packages to a relatively few that are used interchangeably for all the products in the line.

Teamwork in Production—R. F. Cassidy, *Plant Superintendent, Inorganic Chemicals Div.* Responsibility, accountability and performance as applied to the container dollar are old problems in packaging. The answers to these problems can be obtained if the following procedures are followed: (1) Indicate every element of cost on your cost sheets for container and container filling and handling expenses. (2) Relate your sheets to your organization. (3) Establish responsibility and authority. (4) Demand accountability.

You must not ply between limits. You must adopt a sane, steady course of establishing responsibility and providing those concerned with all the tools necessary in this field of cost control of your packaging dollar.

All too frequently, because of the lack of detail, the control of dollars is difficult if not impossible and, secondly, much effort is wasted controlling an estimated dollar or a function believed to be important.

Elaborate formulas all too often are used today, but the best and simplest formula is one plus one equals two, or: Cost plus responsibility equals dollars.

Teamwork in Transportation—John E. Swan, *General Superintendent, Transportation and Materials, Plastics Div.* Package design from the standpoint of transportation is exceedingly broad and covers many activities which are not easily separated either in purpose or practice.

Freight rates applying to a product apply to the container as well. Thus, container weight is important in our transportation costs, even without the considerations for handling, shipping and warehousing. For every 100-million pounds shipped, the company found approximately $700,000 being spent for outgoing freight. At an average container weight of 5% of total gross weight, this amounts to $35,000 for shipping the containers alone. A 1% reduction in the percentage of container weight to gross weight is thus worth $7,000. Not to be overlooked is the freight on incoming goods. For instance, if the freight rate on un-nested fibre drums is assumed at 100%, purchase and delivery of nested pairs reduces the rate by 15%, or by 30% when three or more sizes are nested. Other problems such as handling, storage, customer acceptance must, of course, be considered as well.

In Monsanto, multiwall-bag consumption increased over 250% during the last five years through joint development with the vendors. This development is a continuing proposition. As more knowledge and experience is gained, new containers and economies are achieved. Where in one case the original package consisted of six plies of plain kraft 60-lb. paper and one ply of asphalt, periodic analysis of performance has reduced construction in three successive steps to five plies kraft 50-lb paper. At the same time, combined efforts with production brought densification of the product which reduced bag length from 35 to 33 and then to 31 in.

Valve-type bags with tuck-in sleeves (sometimes heat sealed) eliminated the need for maintaining supplies of a variety of container elements, such as cord, string, tape and wax, in addition to the bags themselves. Also, valve-bag packaging meant less maintenance downtime and reduced floor-space requirements.

Monsanto uses fibre drums extensively for packaging a variety of chemicals, plastics, glues and adhesives, pharmaceuticals, insecticides and rubber additives. Three important reasons which have promoted adoption of the fibre drum are: (a) its durability during handling and shipping and its resistance to causes which lead to loss or contamination of product; (b) the broad range of drum capacities from ½ gal. up to 75 gal., demonstrates its versatility; (c) its customer re-use value.

One of Monsanto's most unique packages is the container for marine transfer of its styrene monomer. The fact that monomeric styrene has physical and chemical properties which classify it as a combustible liquid was extremely important. This meant we could design a 25,000-gal. container for movement in cargo vessels which would not conflict with Coast Guard regulations. Shipment is via Seatrain Lines, Inc., from Texas City to Edgewater, N. J., where the containers are unloaded to tank cars or tank trucks for ultimate delivery. The huge cranes used in hoisting loaded freight cars in and out the Seatrain vessels likewise handle these special marine tanks. The styrene packages are shipped in pairs, each container taking the cradle space otherwise occupied by a freight car, but carrying enough styrene monomer to fill three 8,000-gal. tank cars. Thus, Monsanto can schedule and rely upon closely timed deliveries once or twice a week, knowing that special precautions are being exercised to safeguard the product and its transfer, including refrigeration en route. This shipping method has the advantages of water freight rates and less tie-up of rail equipment.

Teamwork in Sales—Theodore S. Lawton, *Product Sales Manager, Plastics Div.* The sales department looks at the package or container only in one way—as a sales advantage.

A product sold in a package, well designed to do an efficient and practical job, is a definite service to the customer; as much a service as good delivery, competitive price, quality and all other reasons that make you the preferred supplier to a particular customer.

And what is more important to a sales department than advertising? A good package will advertise not only your product, but your company. This concept of packaging is especially important if large sums of money are being spent to promote a product nationally.

Not only does the package advertise the product, but other

essential information such as weight, dimension, color, formulation, etc., can be put on the package. This allows the customer ease of material handling as well as efficiency of operation due to a well-marked package.

Foremost, a package or container serves the purpose of assuring safe arrival of the sale at the customer's plant. A large capital investment is usually involved in the production of any goods. To assure the maximum return on the investment, the product should reach the customer in usable shape.

Where the customer has adequate unloading and storage facilities, a further sales advantage can be realized by pallet shipment. A salesman in short time can prove to the volume customer sizable savings if pallet shipments are used. In most cases, even the additional cost of a fork truck can be justified by the savings accrued from handling pallets.

As an example, Monsanto's Lustrex styrene molding material can now be packed and shipped in bulk. This product ranges from a very fine to a coarse granular material, and is also available in pelleted form and in a variety of colors. In 1939 the product was shipped in 210-lb. drums, in 1946 it was available in 50-lb. multiwall bags, in 1949 palletized bag shipments were made and now shipments are being made in 1,000-lb. bulk containers. Not only did these progressions mean a savings to Monsanto in packing and material-handling costs, but each offered the sales department a strong selling advantage.

In developing and selling any new package or method of shipment, it is most important that the sales department receive all the facts. This is necessary if they are to capitalize on the advantages with the customer. A printed brochure for distribution to the trade and sales force is an effective way of promoting the new packaging idea. This gives the salesman a strong talking point and also is an effective means of advertising the company end product.

TUESDAY AFTERNOON

Problems and Solutions in Industrial Packaging Today—(Panel Discussion).

Chairman, PAUL O. VOGT, *Consultant, Packing, Warehousing & Shipping, General Electric Co., Schenectady, N. Y.*

ROBERT ANDERSON, *Packaging Methods Supervisor, Sperry Gyroscope Co. (Div. of Sperry Corp.), Great Neck, N. Y.* Mr. Anderson described the development of a Fiberglas container for packaging delicate guided missiles. The strength of the container is unbelievable, he said. One such container has undergone 50 drop tests and is still in perfect condition. There is absolutely no deformation. He cited the following advantage of Fiberglas over steel: It is lighter in weight; service costs are less since Fiberglas does not rust and can be repaired easily; Fiberglas and thermosetting plastics are not on the Munitions Board critical lists; the container does not dent or break under severe impacts, and deflection under shock loads can be controlled over a wide range; resistance to snow, rain, ice, moist and salt air, and water immersion is superior, and moldings do not leak under pressure; and resistance to thermal shocks is much superior to metals.

There is one disadvantage of Fiberglas, Mr. Anderson conceded; that is the cost. However, he believes this disadvantage can be overcome in time. If the container is used over and over again, some of the higher initial cost may be offset by savings in shipping cost because of the lighter weight.

Mr. Anderson also described the development of two other Sperry containers, one for a computer and one for an anti-aircraft computer. The first computer, because of its design and for functional purposes, must remain in a vertical position at all times. This problem was finally solved with a full cardon suspension gimbal, so constructed that the unit will remain upright regardless of the position in which it is placed by truckman or carrier. In the field, these gimbals also are used as holding racks and on the repair benches.

The anti-aircraft computer was packaged in a slightly larger than standard type Dravo container commonly known as a "Transportainer." The packaged Dravo was accidentally "drop tested" in the early stages of the program without any damage. This system, Mr. Anderson reported, has been in operation without adjustment or repair longer than any other at Sperry.

Other advantages of the Dravo container, according to Mr. Anderson, include the following: Because the doors can be locked and sealed, no additional security precautions are necessary. Uncrating at destination is eliminated. The Dravo can be positioned at assembly line, doors opened and the units removed and placed in position on the gun carriage. The Dravo is weathertight and can be stacked three high for storage. On the last three orders it has enabled Sperry to save the customer more than a million dollars on packaging and packing.

Packaging engineering and design at last is being recognized as a profession, Mr. Anderson concluded. Now the Government is recognizing the potentials in industry personnel by incorporating performance specifications for packaging and packing instead of specifications telling the manufacturer exactly how to package the commodity. Such performance specifications give the contractor latitude to explore the packing-supply field for new and cheaper materials. As a result, he forecast, overpackaging will gradually disappear and the correlation of numerous test data will make it possible to reduce some of the stringent requirements and substantially cut down on packaging costs.

RAY A. TRITTEN, *Chief Factory Engineer, Carrier Corp., Syracuse, N. Y.* Every product of the Carrier Corp. is treated as a special, individual packaging problem, Mr. Tritten pointed out. He described the development of typical packages for room air-conditioners, store weathermakers, house air-conditioners and food freezers. Room air-conditioner packaging, he said, has been modified to meet increased volume and the requirements of changed marketing methods.

A new room air-conditioner package was introduced last year to replace one that presented the following problems: The container was relatively high priced and, because it was rigid, transmitted shocks directly to the air-conditioning unit. Adequate clearance had to be provided around the unit for protection of the paint. The light decorative grille was often damaged in shipping. It was necessary to attach the crate to the unit by means of holes in the base pan. The packaged unit was unwieldy and hazardous to handle by hand. Uncrating in a customer's home created a nuisance and sometimes damage.

Now the high-cost rigid container has been replaced by a pressure-packed corrugated carton at a saving of $1.63 per pack for material and a 10-min. reduction in the factory labor required to pack the unit. The new pressure pack absorbs rather than transmits shock; reported shipping damages have dropped from 1.3% for the old pack to zero for the basic unit package and six tenths of 1% for the package containing the grille and accessories, now shipped separately. The hazardous holes in the base pan have been eliminated. The baked-enamel surface now is protected by waxing all cartons in direct contact with the unit. Design of the package for palletizing in stacks of three high reduced carloading time, factory and field warehousing problems and debris from unpacking.

The store weathermaker is packed in a plywood crate designed to meet heavy stacking loads without sacrificing economy. The crate is solidly enclosed to protect the product's highly finished surfaces. A recent change in design, which incorporates stapling with nailing, has saved $1.14 on the five-ton size and reduced the factory labor 4 min. per unit.

A refrigeration and heating system together with necessary control wiring was designed to meet the demand for a single year-round air-conditioning package for low-cost installation in new homes. The packaging was complicated by the necessity of providing a low-cost unit which must support a 120-lb. semi-floating removable heat interchanger.

A wirebound crate was used, with a back bar to which could be bolted, through the unit chassis, special lugs on the back of the heat interchanger. This immobilized the heat interchanger

during shipment. If the interchanger had had to be shipped separately, cost advantage would have been wiped out.

Food freezers present the problem of a re-usable container; since the refrigerant system is designed as an integral, complete sealed unit, the product must be returned to the factory for servicing. The returnable crate finally evolved is of plywood and is split diagonally in half. The unit is assembled into one half of the crate, then the other half is assembled and the two are bolted together. This returnable crate will make eight to 10 trips before it must be refurbished and costs approximately 20% more than a single-shipment pack.

B. R. SACKETT, *Assistant Sales Executive, SKF Industries, Inc., Philadelphia, Pa.* Number, appearance, brand identification and marking of packages were the principal problems attacked by SKF Industries in its packaging improvement program.

The company started to improve its packaging by hiring a packaging consultant, who immediately came up with the recommendation: There are too many packages; reduce the number. The difficulty was, Mr. Sackett pointed out, that SKF's commercial pack for ball and roller bearings has tremendous weight in a small volume.

To package the entire line of bearings required 240 different box sizes. By elimination of 38 sizes, this number has been reduced to 202 box sizes that must be stocked at all times. In addition, Government ruling requires a separate line of products for certain categories of foreign distribution. While these are the same products as the domestic ones, they carry a different trademark. When and if the entire range of bearings is spread into this trademark, there conceivably may be 202 more box sizes. Products imported from SKF companies abroad also must carry a different identification.

By and large, according to Mr. Sackett, industrial packaging is not particularly noted for either beauty or proficiency. Little attention is given to point-of-sale motivation to buy. To improve the package's merchandising effectiveness, Mr. Sackett explained, SKF decided to strive for the following: A better and stronger brand identity through the use of the trademark; a box design more in keeping with the precision quality of the product and the company's prestige; a more practical handling of the end panel to make the marking and brand identity more legible; and an improvement in box quality, including better construction and reduction in number of sizes and types.

A new exterior design was developed with stronger brand identity, indication of quality, customer eye appeal and legible end-panel marking. Although the new box is more expensive than the old one, there has been little over-all cost increase because of savings made elsewhere. By elimination of taping, more money could be put into box material. In the smaller range of sizes, use of a glued-end box rather than the tuck-end-type box has resulted in a stronger box which was produced at the same cost.

The remaining major problem is marking the bearing number on the end panel. The bearing industry, Mr. Sackett said, seems to have a language all its own. Numbers are long and involved. Complications arise from space limitations on small boxes, the manhours of time needed to prepare small lots of boxes for the packing department and the need for a large quantity of various sizes of type from which to make up marking dies. Each product series has about 20 sizes and for each size there could be some 600 marking variations, indicating a need for 12,000 marking dies for any quantity per item of a few pieces or many thousands. And the customer also may require his part number on the box.

This problem, according to Mr. Sackett, is still unsolved. SKF is now surveying the various methods of marking to determine the clearest, most efficient and lowest-cost technique.

Concurrent with the packaging program has been a modification of methods in the field of shipping containers. Eleven sizes of wirebound boxes have been replaced with corrugated boxes, reducing costs about $9,000 a year. Many heavy wooden cases are being replaced by wirebound boxes, for an estimated additional saving of $14,000 a year. The total increase in cost of the new, stronger cartons will be only a fraction of this amount, thus making possible a substantial over-all saving.

WEDNESDAY MORNING

Research Pays Off at Kraft Foods—(Panel Discussion).

Chairman, DR. HUGH H. MOTTERN, *Manager of Research Laboratories, Kraft Foods Co., Glenview, Ill.*

A Kraft History of Packaging Successes—Dr. Mottern pointed out that one of the first Kraft milestones was erected in 1914, a dramatic period of Kraft expansion and growth. In 1916 Mr. Kraft had obtained a patent for a method of blending and pasteurizing natural cheese. When World War I came along, the Army was faced with the problem of what to do with great supplies of cheese which were going to waste at nearly every port of shipment. Mr. Kraft decided to process the cheese, pack it in tins and ship it to Europe. In tins it was possible to transport the cheese without refrigeration at normal temperatures and it was protected from the infestation of mice and rats. Nearly 15 years after the war some of the first Kraft cheese in tins was discovered in Europe and it was still good.

Kraft again made packaging history in 1921 when the company discarded tin and brought out the container which is generally credited with having launched the process-cheese business on a national scale—a 5-lb. loaf of cheese packed in foil and encased in a rectangular wooden box.

Kraft officials learned early the re-use value of a package, for these sturdy boxes became almost standard household containers for nails, screws, buttons and miscellaneous small items. Amateur artisans made thousands of them into bird houses, doll beds and toy buildings.

Perhaps the biggest advance in Kraft packaging was the advent of the now famous "Swankyswigs." MODERN PACKAGING, an industrial magazine, called this container "a logical candidate for packaging's all-time Hall of Fame."

Cheese in glasses created many problems. First of all, much research had to be done to produce a top-sealing cap which provided a complete vacuum seal which could be replaced to protect unused contents. The successful development of the top again offered a new packaging possibility, the opportunity to cross-advertise other Kraft products with the copy printed on the caps. It also provided an excellent opportunity for the company to announce new products or premiums.

Until 1950, when Kraft first began to put cheese in links, the process had always been done by hand, a slow operation which required too much handling of the product. Kraft research and engineering adapted a machine which, for the first time, was able to use plastic film—saran. Now the cheese is packaged in one operation—filling, clipping and sealing the ends and labeling.

In this gas-impermeable, moistureproof container the product has longer shelf life and is attractive to the consumer in its sparkling transparent covering. In its uniform cylinder shape it is also popular for the way the slices fit cheese crackers.

Unlike butter, margarines are often displayed at room temperatures. However, as Kraft improved its margarine product—Parkay—to make it more spreadable, a new packaging problem developed, an oiling condition which sometimes stained the package within a short time.

In 1952, Kraft began using a new kind of carton which, although subjected to oil, does not stain. In improving the package board, the printing surface was also greatly improved. This was a Kraft research "first"—a success in the margarine business which has since been followed by other companies.

A revolutionary new development in institutional food service has been started by Kraft—Portion Control—a development meeting the needs of the entire field in low-cost, labor-saving inventory control, quality and sanitation in individual food-portion packaging.

Portion Control packaging of foods appears to be so broad that it is impossible to forecast all the types and quantities of

foods that may be brought out in the new packaging treatment. While the development so far has been in the institutional food field, there are many reasons why the packaging technique may become successful in the consumer field as well.

The Organization and Function of Kraft's Packaging Laboratory—LEWIS J. HAYHURST, *Chief of Package Research.* Because of the size of its operations and the broad classification of products we package, Kraft must, of course, specialize. One group handles studies of corrugated shipping cases and paper packages; another, flexible films and foils; while still another looks after glass and rigid materials.

The procedure followed in Kraft packaging research goes somewhat like this:

The problem is determined, finding its source in sales, production, advertising, merchandising or research itself. After the problem is recognized, a project authorization is written and a project leader is assigned. The problem's background and the justification for the work are determined. The approach to the problem to be studied is spelled out in detail. Estimates of time and costs to conduct the project are established and the project is then authorized by the director of research and the department requesting the project. The project leader then pursues his study according to plan and reports his progress at frequent intervals.

As he approaches the end of the project, sales, advertising, production planning and purchasing are alerted, since copy changes may be required, or a sales program altered; production may need new equipment or a different layout for the packaging line; engineering may have to design new equipment and, of course, purchasing must know when new supplies are to be scheduled so that old inventories are used up first.

Packaging research is considered a service group and aims to carry out a sort of liaison function on all packaging matters, except for advertising, copy design and artwork, although here, too, a close relationship is maintained. By having the packaging group associated with research, it is convenient to obtain the benefit of the experience of the product research groups. The basic product requirements are obtained from the product research group involved—factors such as moisture equilibrium, moisture content, oxidative properties, bacteriological factors or other factors not already known. These product research groups also judge for the package project leader the quality of the product involved and help decide whether or not the package has improved or impaired the quality of the product, while trained taste and preference panels are also available for consultation.

Effective package research may enable utilization of more desirable and usually more expensive materials at the same, or reduced cost if the project leader is qualified really to research the material and does not just perform routine tests on standard materials.

Kraft's package research builds many of its projects around a supplier. Once purchasing has cleared a company as a supplier of packaging materials, the research department begins to build a relationship between the technical departments of the two companies and visits back and forth result in a better mutual understanding of the problems and objectives of each.

Each year Kraft's package research has instituted and maintained a project that has had as its prime objective the investigating and studying of new materials as they are developed by our suppliers. Within this project, Kraft screens and tests these new packaging supplies on each of the types of products in which Kraft is interested. By considering the results with the technical staff of the supplier, further improvements are made on the item, or it is dropped.

A Typical Case History of the Development of a Kraft Glass Package—FRANK JOHNSON, *Group Leader, Packaging Research Section.* Kraft's first concern in any package development problem is a thorough assessment of the chemical and physical characteristics of the product, which are usually prepared by the product research group. However, sometimes packaging tests are required to determine product characteristics.

If it is a free-flowing product, further considerations probably will be concerned with the narrow-neck bottle, as is the case with salad oil or French dressings. However, if the product is a solid or slow-flowing liquid at room temperature, packaging research will then determine its viscosity more accurately through a range of temperatures from immediate removal from a refrigerator to the upper limits of room temperature. These viscosity determinations are important in establishing whether the future container will be a very-wide-mouth jar for spooning a slow-flowing product, like mayonnaise or Miracle Whip, or whether the product requires the use of a knife on solid products like cheese spreads.

If the product to be packaged shows little tendency to become rancid in a lowered oxygen atmosphere, even when exposed to light, and light-exposure tests have shown that the color is stable when the product is exposed to the maximum intensities likely to be encountered on the retailer's shelf, a vacuum capped jar or bottle rather than the conventional screw cap or lug-type cap is considered.

If the product requires the maximum package protection and will have to be removed from the container either by spoon or knife, this indicates the need for at least a 57-mm. opening in the container to allow for easy spooning or spreading.

If the product has definite eye appeal, the decision probably is made to limit further development work to glass only—further narrowing down package consideration to a vacuum-closed glass jar.

The next procedure is to set up trial packs on a larger scale for the purpose of confirming product characteristics, screening variations in glass closures and packing methods, and determining the potential shelf line of the product. Consideration of capper availability, initial investment, efficiency of operation and operation costs all result in the management decision, agreeable to research, production and engineering departments, to use, for example, the well-known vapor-vacuum method of reduced oxygen packaging with a side-seal vacuum closure.

After the decision as to the basic container type is made, work is begun to produce a package design which will, within the framework of this container type, combine the maximum in sales appeal and utility to the consumer. Plastic models are capped with available styles of vacuum caps and shown to management. In considering these models, purchasing, of course, is concerned with its ability to obtain alternate suppliers in strategic localities to make the jar; production with the handling characteristics of the jar from the viewpoint of conveyor transport, filling, labeling and shipping. Advertising is concerned with the amount of label space available and how the jar will look in promotional illustrations. The home economist is interested in the ease of opening, removal of the product and re-use possibility. And, of course, sales is extremely concerned with the appearance of the jar on the retailer's shelf. The jar finally selected is the one that meets the diversified requirements of these groups.

After deciding on the jar style, further extensive work is continued on variations in the glass finish available, with the aim of achieving maximum security of the cap on the jar and minimum difficulty in opening and maximum ease in reclosure. The packaging research group works up specifications and defines the maximum label area available consistent with efficient labeling practices. These specifications are sent to the advertising department for label designs which may be square, rectangular or free form and will affect the final compromise with the labeling equipment.

Kraft next seeks some suitable means of obtaining a preliminary consumer reaction to the new product and its package. This usually is done by a statistically balanced group of several hundred families in a test conducted by marketing research.

For the purpose of providing production experience and to evaluate further consumer acceptance on a considerably larger scale, Kraft then decides to produce for full distribution to four

or five cities. These cities will be chosen by sales so as to represent variations in geographical location and population which might affect product acceptance. In setting up for this test marketing, all packaging materials are ordered according to specifications as written by packaging research.

It is the discovery and solving of production and distribution problems at this test-market level that minimizes hurdles and eliminates pitfalls in the full production expansion that follows. The research group is always part of the trouble-shooting team.

Research assists production engineering by acting as consultant in the installation of equipment, on filling problems and in finalizing quality-control standards for packaging supplies.

Packaging continues to render service even after expansion to full national distribution. After establishing the various production locations, careful statistical investigation of fill weights are made to determine whether or not excessive overfilling is occurring. By studying these situations, it is possible to adjust the glass capacity slightly and thereby effect economy in saving of product.

If the jar is an original design, it is desirable to obtain experience concerning the acceptable minimum weight of glass needed to insure satisfactory strength and performance in the jar. Packaging therefore conducts extensive tests, first in the laboratory and then in the field, and has been able in some instances to reduce the weight of the jar by as much as 14% without sacrificing performance, which results in considerable saving in shipping costs.

After the new product and its package are developed and have shown themselves successful, packaging research continues to carry out extensive investigations of new packaging materials and methods which hold further promise of still other improvements. The laboratory continues to conduct tests with still other known or newly developed methods of air-free capping, new closures and new glass designs.

The research department also continues working with several large companies in an attempt to develop improved gasket materials and cap-liner materials which might permit greater flexibility in our future closure considerations. We are working with our glass suppliers in investigating the possibilities of applied color labeling. And we are constantly cooperating with cap suppliers in making our product information and production facilities available for trial runs of still other experimental closures.

Along with this planned work, packaging is always on call whenever suitability of a supply item is in question or when equipment seems to deviate from standard performance. In the packaging research group, these services to other departments of the company still account for approximately 40% of our time.

The packaging technologist, far from being confined to the narrow realm of usual specialization, can and should expand his thinking into every realm of his company's operations, for he can provide, through his understanding of the technical basis of package performance, the know-how that can reconcile the varied needs of purchasing, production, advertising and sales, and translate them into terms the supplier requires, always mindful of the basic goal of better product quality and better packaging to maintain that quality straight to the consumer.

Saving Dollars by Packaging-Research Anaylsis—FRANK BROWN, *Group Leader, Packaging Research Section.* Kraft set out to develop a program to evaluate properly the quality of corrugated containers and subsequentaly save some packaging dollars. The program is designed to inspect for the greater percentage of inferior shipments rather than try to check fewer shipments with more precise methods.

The program is based on mechanical tests and visual inspection—the former consisting of bursting (Mullen) and printing-impression tests. Visual inspection covers checking for size, printing, style, flute and certificate as well as for fabrication defects such as poor adhesion, leaning corrugations, squareness of box, manufacturer's joint, depth of slots—all of which lower the quality of the corrugated container.

In the first months of the program it was found that approximately 40% of all containers when tested as received did not comply with specifications. The majority of shipments had some type of fabrication defect.

The program for quality control of shipping containers was initiated in eight major plants throughout the country under the supervision of production personnel cooperating with package research. Each plant was equipped with a bursting (Mullen) machine and a caliper device. Further, so that every plant followed the same procedure, one employee from each plant was trained in a special training class.

Each shipping container considered for reduction was tested in the laboratory to determine whether reduced-strength boards might be used. In addition, it was found necessary to compile methods and procedures in the form of a manual. This manual describes chronologically the procedure for sampling a shipment, testing and reporting the results.

In a relatively short length of time, Kraft has successfully reduced between 25 and 30 shipping containers—and is continuing to reduce many, many more. Obviously, the changes mean considerable savings annually. This part of research is continuing in the research laboratory. It is possible to reduce costs regularly and assure quality merchandise.

The program was basically designed to assure acceptance of materials that meet requirements as specified, thereby receiving exactly what is paid for.

The results obtained on a great number of shipments from individual suppliers enable the purchasing department to buy more critically and the production department to operate more efficiently. In addition, the results compiled over periods of time provide invaluable information for further research studies and more adequate specifications.

This program of inspecting materials carefully at the point they are received was accepted by all of Kraft suppliers, who have cooperated to arrive at mutually satisfactory standards and methods of testing.

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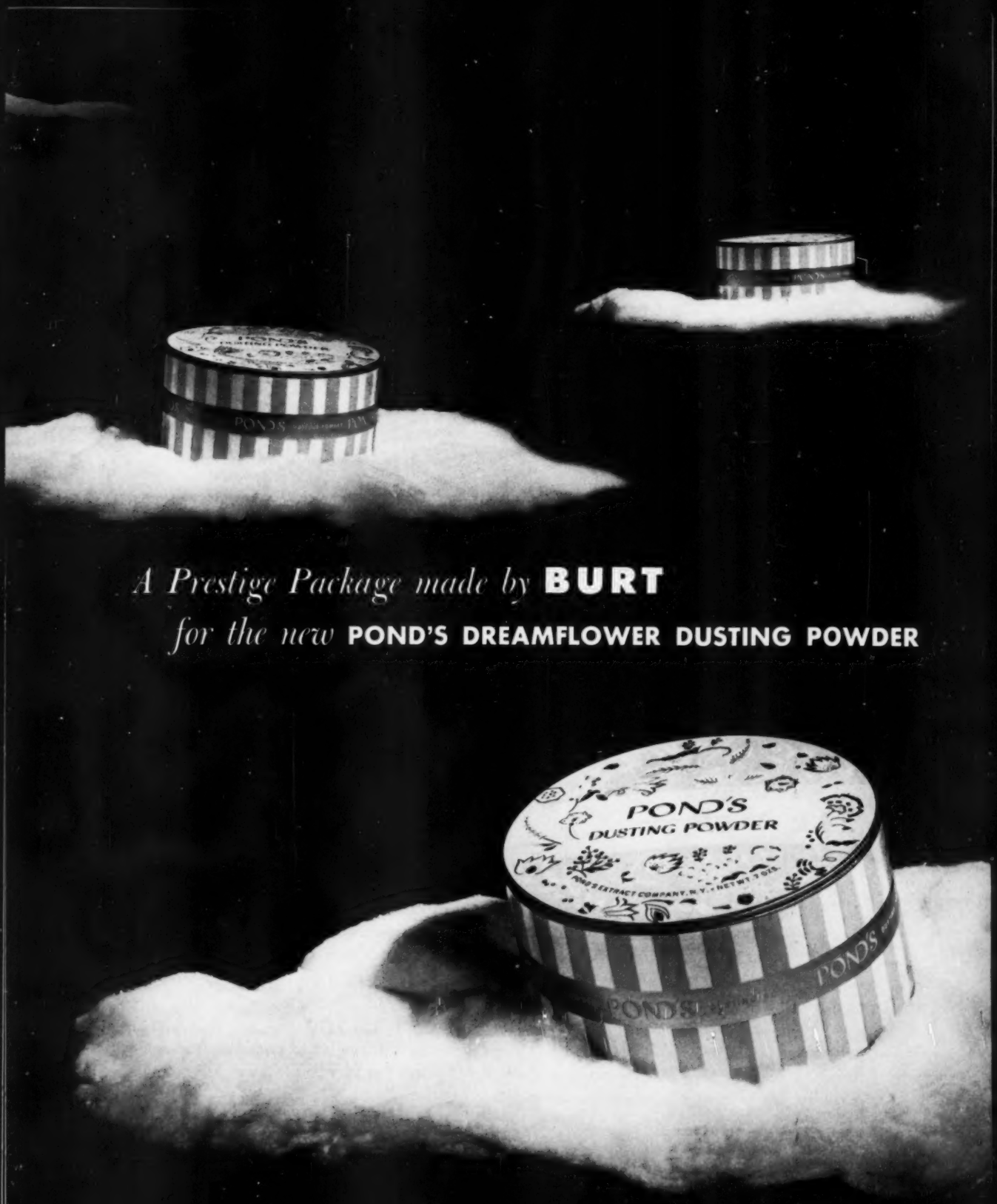
Assisting Chairman Triggs as members of the Exhibitors Advisory Committee for this year's show were: Charles L. Barr, F. B. Redington Co.; John C. Clay, National Starch Products, Inc.; Alan S. Cole, MODERN PACKAGING; Neil A. Fowler, General Box Co.; Robert D. Handley, Standard Packaging Corp.; Roy E. Hanson, Milprint, Inc.; Marshall Haywood, Jr., Haywood Publishing Co.; D. S. Hopping, Celanese Corp. of America; Ben C. Lewis, Peters Machinery Co.; Horace Lloyd, Eastman Kodak Co.; Clarence F Manning, Reynolds Metals Co.; Russ Matthews, Bakelite Co.; Paul Meelfeld, Robert Gair Co.; Tom Miller, Package Machinery Co.; Carl E. Schaeffer, Stokes & Smith Co.; LeRoy B. Steele, E. I. du Pont deNemours & Co., Inc.; Glenn Stewart, Kalamazoo Vegetable Parchment Co.; M. W. Waggoner, Better Packages, Inc.; Richard Wellbrock, New Jersey Machine Corp., and Ben M. Williams, Gaylord Container Corp.

Working with AMA Vice President Warren as members of the Conference Planning Council were: Datus W. Berlin, Gimbel Bros.; H. W. Bull, The Dow Chemical Co.; Robert deS. Couch, General Foods Corp.; C. W. Evans, The Studebaker Corp.; Edgar J. Forio, The Coca-Cola Co.; Lee R. Forker, Quaker State Oil Refining Corp.; W. R. Gouveia, The Fleischman Distilling Corp.; Charles W. Kaufman, Kraft Foods Co.; J. L. Knapton, California & Hawaiian Sugar Refining Corp., Ltd.; S. W. MacKenzie, United States Rubber Co.; A. Douglas Murphy, Standard Oil Co. (N.J.); Ralph A. O'Reilly, Jr., General Motors Corp.; Donald W. Pennock, Carrier Corp.; M. Crawford Pollock, C. A. Swanson & Sons: R. Chester Reed, The Texas Co.; B. J. Rockefeller, Union Carbide & Carbon Corp.; W. L. Romney, The Procter & Gamble Co.; C. L. Rumberger, H. J. Heinz Co.; Paul O. Vogt, General Electric Co., and John R. Whitaker, American Stores Co.

Coleman Lee Finkel was Conference Director for the AMA.



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Bacon packers said "We want tighter, neater wraps for our bacon, and we want a machine that can make them quickly and economically."

"Package" engineers went to work—and soon came up with a machine that does the trick—our Model FB bacon wrapper. At a speed of 50 packages a minute, the FB turns out drum-tight wraps that set a new standard in attractiveness. Now this machine is wrapping leading brands of bacon throughout the country.

PREPACKAGING MEATS

Another noteworthy development pioneered by "Package" is the wrapping of meat in supermarkets. Here, too, our new Universal 6 machine is stepping up sales and making remarkable savings. With a speed of 40 packages a minute, this machine enables a supermarket to wrap a wide variety of meat *the same day it is sold*—not days in advance as with hand wrapping. Result—fresher looking, more appetizing meat, faster, more profitable sales!

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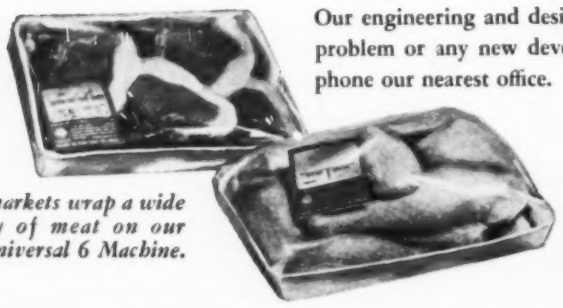


Supermarkets wrap a wide variety of meat on our new Universal 6 Machine.

PACKAGE
MACHINERY COMPANY
SPRINGFIELD, MASSACHUSETTS

NEW YORK PHILADELPHIA BOSTON CLEVELAND CHICAGO ATLANTA DALLAS
DENVER LOS ANGELES SAN FRANCISCO SEATTLE TORONTO MEXICO, D.F.

Polyethylene as a food film

A review of its development and a compendium of properties of interest to food packagers.

By C. J. B. THOR and M. GOLDMAN*

Polyethylene resin was first obtained on a laboratory scale in 1933 by Imperial Chemical Industries in Britain. By 1939 this company had achieved limited commercial production of the resin. Its usefulness as an electrical insulating material had been established and polyethylene became a vital factor in the radar defense of Britain in World War II. During the war, the Du Pont company and the Bakelite Div. of Carbide and Carbon Chemicals Corp. began the production of polyethylene resin in the United States. Recently, several other chemical companies have announced their intention to produce a polyethylene resin in this country under I.C.I. license and under their own processes.

When polyethylene resin became sufficiently available in this country, The Visking Corp. pioneered in the development of thin-walled polyethylene film by extruding the resin as a seamless tube. Commercial production of the film was achieved in 1945. Since that time a number of other extruders have entered the field and, in the short period of eight years, polyethylene film has become a major and still rapidly growing factor in the packaging industry. At the present time polyethylene resin is being produced at a rate of more than 150 million pounds per year in the United States. A substantial proportion of this production is being marketed as unsupported film.

* Both authors are with The Visking Corp., Chicago.

At present polyethylene film is available as lay-flat seamless tubing up to 120 inches in flat width and in wall thickness from 1 to 20 mils. Single-thickness film is sold in a similar thickness range and in widths up to 120 inches.

Polyethylene resin produced by polymerization of ethylene gas under high pressures and temperatures is essentially a long chain aliphatic hydrocarbon. The resulting polymer is one of relatively high crystallinity and low density. The commercial grades of resin differ from each other in the magnitude of molecular weight, extent of branching of the hydrocarbon chains, degree and type of unsaturation and the amount and structural form of their trace oxygen content.

For food packaging polyethylene film is made from pure polyethylene resin without the addition of plasticizers, stabilizers or other additives except for pigments to produce color and opacity if desired. The film may be produced by the extrusion of the molten resin through a circular die to give a seamless tube or through a flat slot die to produce single thickness film. Flat slot die extrusion tends to yield films which are oriented mostly in the machine direction. In tubular extrusion, orientation can be effected in both machine and transverse directions and this is a factor in producing film of improved tear strength and durability.

Extrusion equipment used for the production of the film is specially de-

FIG. 1

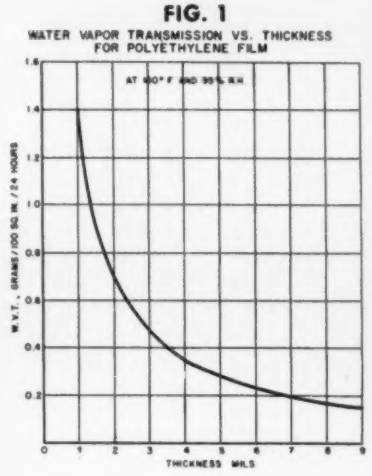

WATER VAPOR TRANSMISSION VS. THICKNESS
FOR POLYETHYLENE FILM
AT 100° F AND 95% R.H.
W.V.T., GRAMS/100 SQ. IN./24 HOURS
THICKNESS MILS

FIG. 2

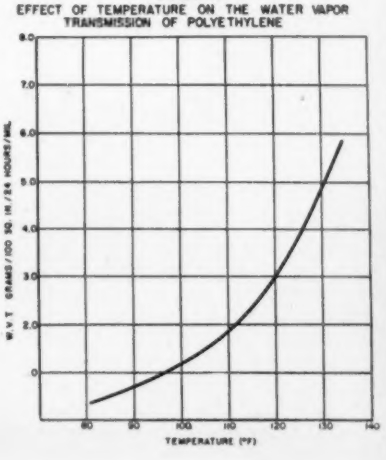
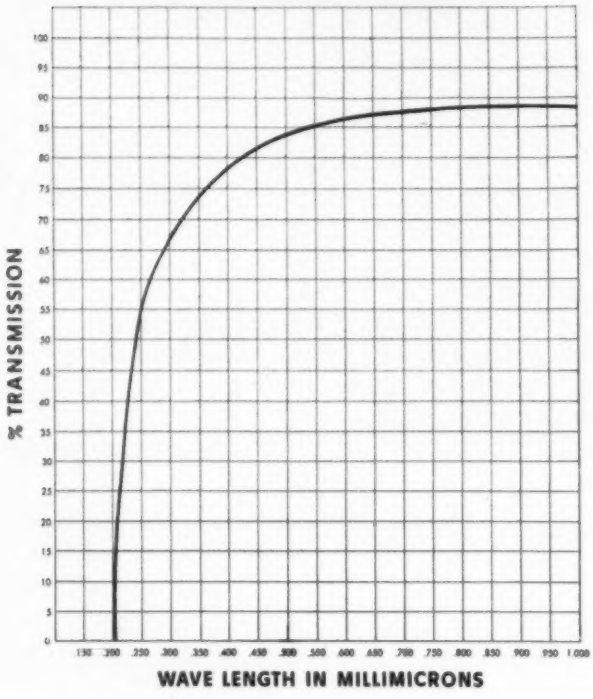


FIG. 3—ULTRAVIOLET INVISIBLE LIGHT TRANSMISSION OF 4-MIL POLYETHYLENE FILM



signed for the purpose. The conditions required to produce satisfactory film are the result of extensive research on the part of the principal film producers. By the use of pure polyethylene resin and the choice of optimum extrusion conditions, a nontoxic, odorless and tasteless film with unique properties for application to food packaging is achieved.

This film with its low density of 0.92 has the unusually high yield factor of 30,100 sq. in. per pound of 1-mil film.

Polyethylene film has adequate tensile and elongation properties which are retained to a remarkable degree at subfreezing temperatures. (See Table I.) This property of maintaining good mechanical characteristics at low temperatures is further illustrated by the tear strength and impact puncture strength figures also shown in Table I. It is the very high tear strength of properly extruded polyethylene film that makes possible the use of perforated bags for produce packaging. This will be discussed later.

Polyethylene has highly desirable aging characteristics and the film can be stored for years until used without loss of its prime physical properties. Tensile, elongation and tear values for a given lot of polyethylene film tested at intervals over a period of five years are given in Table II. Low temperature measurements made on the same film indicate that the low temperature properties are equally well retained.

Polyethylene film has a relatively low water-vapor transmission rate which is inversely proportional to thickness as shown in Fig. 1. The temperature dependence of the water-vapor transmission rate is illustrated in Fig. 2. Based on this curve it can be said that the water-vapor transmission rate for polyethylene changes by about 70% for every 10 deg. F. change in temperature. In addition to its low W.V.T. rate polyethylene film has a water-absorption value of less than 0.01%.

Polyethylene film has a relatively high gas transmission rate. Typical transmission values for a variety of gases and vapors are given in Table III. It should be noted that the inverse proportionality of transmission rate to thickness applies to these transmission rates as it did to the W.V.T. rate mentioned previously. Generally speaking, polyethylene film is quite permeable to organic vapors, essential oils and related materials, except highly polar ones, e.g. alkyl amines.

Polyethylene film is thermoplastic (softening at 110 deg. C.) and is readily heat sealable. Most of the current applications of polyethylene film in the food packaging field involve the use of plain or gusseted bags made from film ranging from about 1½ to 4 mils in thickness. These are usually fabricated by heat sealing methods ranging from the common heated bar through hot wire, impulse, rotating band, rotating heated roller, flame and electronic techniques. Manual and semi-automatic devices are available for heat sealing polyethylene film, but most of the bags are made on automatic, high-speed bag machines which are capable of converting rolls of either film or tubing to bags of almost any required size.

As yet, no adhesive satisfactory for bag fabrication from polyethylene film has been developed. Adhesives are available which are satisfactory for lamination or spot gluing the film to the other surfaces. These are usually latex types of adhesives and require the escape of water and solvent for setting. Solvent sealing is not a feasible method of fabrication.

FIG. 4—INFRARED SPECTRUM OF 2-MIL POLYETHYLENE FILM

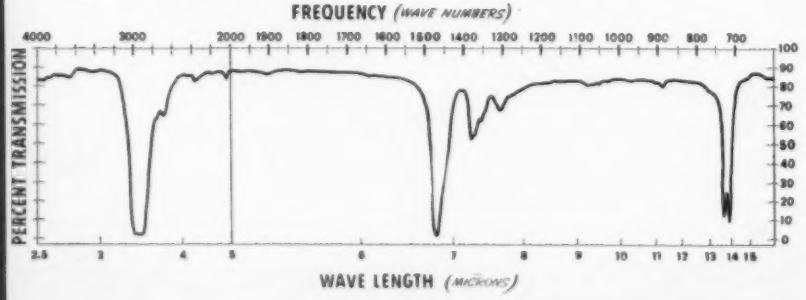


TABLE I—PHYSICAL PROPERTIES OF POLYETHYLENE FILM AT VARIOUS TEMPERATURES

Properties	*Temp., deg. F.*	*Longitudinal direction*	*Transverse direction*
Tensile strength, lbs. per square inch	77	2,480	1,600
	32	2,990	2,050
	0	3,430	2,525
Elongation, %	77	230	185
	32	100	55
	0	70	45
Tear strength, g. per mil thickness	77	180	125
	32	45	290
	0	30	260
Impact puncture resistance, in.–oz. per in. of tear	77	90	50
	0	60	55

TABLE II—EFFECT OF AGING ON TENSILE AND TEAR PROPERTIES OF POLYETHYLENE FILM

Property		*First test 10/7/48*	*Second test 1/26/50*	*Third test 1/29/51*	*Fourth test 8/10/53*
Tensile str., P.S.I.	M.D.	3,624	3,049	3,563	3,708
	T.D.	1,419	1,720	1,799	1,539
Elongation, %	M.D.	196	225	178	230
	T.D.	152	864	464	650
Tear str., g./mil	M.D.	153	228	250	196
	T.D.	109	108	119	80

Bag closure may be accomplished in a number of ways, e.g. by heat sealing, stapling, tying, twisting, taping and banding. The method selected depends on the demands of the product, the convenience of the filling operation, economics and other factors. The re-usable feature of a polyethylene bag is best accomplished when a temporary closure is employed.

It is usually required that polyethylene food packages be printed with identifying marks, illustrations, directions, recipes, etc. Furthermore, the adhesion and durability requirements of the printing are often exceedingly high. Produce packages, for example, may have to endure long freight hauls in refrigerated cars in contact with crushed ice. Since 1945, when the first commercial polyethylene film was produced, continuous research and development in film manufacture and printing techniques, particularly directed toward permanent ink adhesion, have been in progress. Today a printable film which offers permanent bonding of the ink to the film is being manufactured commercially by at least two film producers.

It is now possible to obtain excellent adhesion with flexographic, letterpress and rotogravure inks without the use of an "anchor" coat as was formerly recommended.

Flexographic inks are available from commercial ink manufacturers. These have good gloss, hiding power, adhesion and rapid-drying characteristics. During printing, proper tension control is very important to avoid stretching of the thin web. Air circulation and not elevated temperatures should be used to assure proper solvent removal in the dryer. A central impression, cylinder-type press gives good control of the thin web and results in little stretch with

TABLE III—GAS TRANSMISSION VALUES FOR POLYETHYLENE FILM AT 25 DEG. C.

Gas	*Transmission value cc./100 sq. in./24 hrs./mil*
Nitrogen	180
Oxygen	550
Helium	1,225
Freon "12"	1,690
Hydrogen	1,960
Carbon dioxide	2,900
Sulphur dioxide	6,200
Ethylene oxide	29,300
Methyl bromide	79,100

5. POPCORN, unpopped and popped, requires different protection. Unpopped must be protected against any great gain or loss of moisture content. Popped must prevent moisture entrance to avoid possibility of sogginess.

6. LOW WVT RATE of polyethylene film prevents freezer burn and minimizes shrinkage of pre-packaged frozen turkey.

7. AS A LINER for bags, cartons or drums, polyethylene film is used extensively for shipping and storing of bulk food products, as illustrated by this bag for dry milk solids.

8. CARROT PACKAGING in polyethylene film has revolutionized this particular category of the produce pre-packaging field.

accurate registration control. The "stack" type press is being used successfully, especially with the thicker films and tubing.

Letterpress inks of the oleoresinous type are also being used. Their slower drying nature often makes the use of offset sprays or slip sheets necessary. Rotogravure inks also give good results and this method is widely used where continuous long runs are practical. Polyethylene film printing is usually done continuously on rolls of tubing or single thickness film prior to conversion into bags.

Polyethylene films are not completely transparent nor do they have high surface gloss, but improvements in resins and in processes are improving these properties. Furthermore, in many applications, low surface gloss seems to be preferred.

Polyethylene film is actually quite transparent to visible and infrared radiation except for a few specific absorption bands in the infrared region—a characteristic of the chemical structure of polyethylene resin. In the ultraviolet region, transmission falls off rapidly below 300 mm. These characteristics are shown in Figs. 3 and 4.

To be of lasting interest for food packaging, a film must be not only non-toxic, tasteless and odorless but it must satisfy a majority of the following requirements:

1. Prevent gain or loss of moisture.
2. Permit or prevent exchange of certain gases.
3. Show good toughness, flexibility and durability under conditions of shipment, storage and marketing of the product.
4. Have adequate stiffness and slip to permit convenient and economical handling on high-speed printing, forming and filling equipment.
5. Be durably printable.
6. Give an attractive transparent package with the product.

This summary of requirements for a good food packaging film is essentially a summary of the properties of good polyethylene film. A number of examples will illustrate how these properties have been used to their best advantage in different packaging situations.

Popcorn packaged in polyethylene film, when unpopped, is protected against any great gain or loss of moisture content from the optimum of 13%. Polyethylene also achieves the requirement for popped popcorn of preventing gain in moisture content and resultant sogginess (Fig. 5).

For marshmallows in a polyethylene package the moisture content should be neither too high nor too low so that protection from both high and low relative humidity is necessary. Good flex durability is a must in such soft packages. In the case of hard candy the film keeps the product dry and prevents caking. As in the case of unpopped popcorn, the film must be able to withstand the impact of the hard particles especially at low temperatures which may be encountered in transit.

A typical application of polyethylene film is for the packaging of frozen foods. In protecting frozen turkey (Fig. 6) the low water-vapor transmission rate of the film prevents freezer burn and shrinkage, while excellent low-temperature durability insures that the film will remain intact throughout the storage and marketing cycle until the housewife opens the package. The use and re-use of polyethylene bags for storage of foodstuffs in a household refrigerator or deep freeze is probably familiar to everyone.

Polyethylene film is used extensively as a carton, bag or drum liner (fibre or steel) for shipping or storing bulk food products. These products may range from dry products such as nonfat dry milk solids (Fig. 7) to wet foods such as relishes, syrup concentrates and frozen fruit concentrates. In each case the film is required to be resistant to water (vapor or liquid), to be resistant to a variety of food components and to have good mechanical durability. Economics may be a big factor in this instance from two viewpoints:

1. A steel drum lined with a polyethylene liner does not have to be cleaned out before being re-used. It simply requires a clean liner.

2. Fibre drums are coming into more general use for a variety of products since they can be equipped with polyethylene liners. The combination of a polyethylene liner in a fibre drum represents a considerable

(*This article continued on page 230*)

9, 10. HIGH MECHANICAL DURABILITY is essential for heavy polyethylene film packages such as 5-lb. apple and 10-lb. potato bags.

REPRINT TOBACCO

Fibre cans for Ordnance—I

First of two articles on the development, evaluation and use of spirally wound metal-end containers for military packaging.

By E. H. BORKENHAGEN*

Recent laboratory tests provide data which indicate new uses for the metal-end fibre tube in the vast field of military packaging.[1]

To make the best possible use of the tremendous resources and technical achievements of modern industry, representatives of the Ordnance Corps Field Service Div. worked with the fibre tube and can industry in an attempt to provide the Ordnance Corps with a new, faster and more economical way of packaging ordnance material.

Several representatives of the fibre tube and can industry met with representatives of Chief of Ordnance Field Service Office and the Ordnance Packaging Office at the Rossford Ordnance Depot. At this meeting the initial planning was done which led to a one-year testing program to determine the construction features required to make the spirally wound metal-end fibre can acceptable for the packaging of Ordnance Corps material. This testing program was conducted as a joint project between members of the Forest Products Laboratory and the Ordnance Packaging Office at Rossford Ordnance Depot located in Toledo.

The testing program was conducted in two separate studies, the first to determine the adequacy of one construction of spirally wound fibre cans with metal ends for Method IA and Method II application and the second to evaluate the performance of four different constructions of spirally wound fibre cans with metal ends for similar applications. Since each series of tests was carried on independently of the other, it is felt that a better understanding of these studies will be obtained if each one is discussed separately.

The following section concerns evaluation of spirally wound fibre cans with metal ends using foil-kraft barriers for Method IA and Method II applications.

Description of containers

The 458 spirally wound metal-end fibre cans used in this investigation were of one size—approximately 3 in. diameter and 5 in. high—and were made of single-body, multi-ply, spirally wound fibre tubes fitted with one metal end at time of manufacture. Details of the body construction of these cans was as follows:

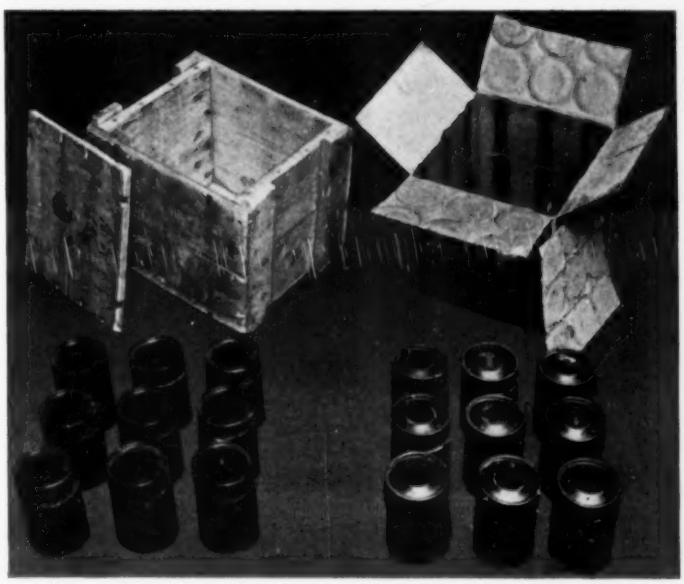
The first (inner) ply consisted of a Grade A, Type II, Class 1 greaseproof barrier material; the second ply consisted of chipboard 0.020 in. thick; the third ply was a "silver sandwich" 0.007 in. thick, consisting of 0.001-in. aluminum foil laminated on two sides to 30-lb. kraft; the fourth ply was the same as the second; the fifth was waterproof duplex kraft, 0.007 in. thick bonded with asphalt; the sixth (outside) ply consisted of asphalt impregnated kraft paper 0.006 in. thick.

Types of metal-end closures. Three types of metal ends—zinc bond, electrolytic tinplate and terneplate all fabricated from stock having a minimum thickness of 0.0097 in. (32 gauge)—were used in these tests. The ends were applied to the side wall of the cans by means of an automatic seaming machine which applied a double crimp, frequently referred to in the fibre can industry as a false double seam.

Test loads and materials

Metal load. Two types of test loads were used in this investigation. One type of load consisted of a standard steel test rod (SAE 1020 steel) ap-

1. CYCLIC EXPOSURE TESTS were conducted according to military specification MIL-B-131 cyclic test. Photo shows condition after test.



* Chief, Engineering Div., Ordnance Packaging Office, Rossford Ordnance Depot.

[1] This article is based on the results of two studies conducted by R. S. Kurtenacker and I. O. Bixby at the Forest Products Laboratory, Madison, Wis., maintained by the Forest Service, Dept. of Agriculture in cooperation with the University of Wisconsin. These tests were conducted at the request of the Ordnance Packaging Office. All fibre cans used in these tests were furnished by two representatives of the fibre tube and can industry.

proximately 1 in. diameter and 3 in. long weighing about ¾ lb. The other type of load consisted of an automotive spare part approximately 2 in. diameter and 3¾ in. long weighing about 2½ lb.

Greaseproof barrier material. The following two types of greaseproof barrier material were used as intimate wraps for the aforementioned loads:

(a) A coated kraft greaseproof barrier material meeting the requirements of Grade A, Type II, of Specification JAN-B-121.

(b) A glassine laminated to kraft, greaseproof bag, approximately 5 by 8 in. in size to meet the requirements of a Grade B, (Class a) bag of Specification JAN-P-117.

Cushioning and blocking. The metal test loads were positioned in the spirally wound metal-end fibre cans with one of the following types of cushioning or blocking:

(a) Kraft-backed cellulose wadding approximately ½ in. thick.

(b) A sheet of waterproof barrier material made up of one ply of asphalt impregnated, creped kraft, bonded with asphalt to a single ply of natural creped kraft.

(c) A spirally wound fibre tube approximately ½ in. diameter and 2½ in. long. A greaseproof barrier material was used for the inner and outer plies of this tube with the remainder of the plies being chipboard.

Desiccant. The desiccant used in the test containers consisted of 2-oz. cloth bags of silica gel meeting the requirements of a Type V, Grade A desiccant of Specification JAN-D-169.

Intermediate fibreboard containers. The intermediate fibreboard cartons were made at the Forest Products Laboratory from W5c corrugated fibreboard. The cartons were of the regular slotted style with inside dimensions of 9⅝ by 9⅝ by 10⅝ in., suitable for holding 18 fibre cans.

Exterior containers. The exterior containers were Style 4 nailed wood boxes made at the Forest Products Laboratory from Group I woods in accordance with the requirements of Specification JAN-P-106. The sides, top and bottom were made from ⅝-in. thick material while ends and cleats were made from ⅝-in. thick material. The box had inside dimensions of 10⁵⁄₁₆ by 10⁵⁄₁₆ by 10½ in. and was suitable for holding one intermediate carton.

TABLE I—DETAILS OF VARIOUS TEST PACKS

Group identification	*Number of packs*	*Description of pack*
		TEST: Water-Vapor-Transmission Determination
A	20	Empty sealed cans
B	25	Can contained three 2-oz. bags of desiccant
C	25	Can contained one unpreserved standard steel test rod wrapped with a Grade A, Type II, greaseproof barrier material
D	25	Same as Group C except a 2-oz. bag of desiccant was placed in each can
		TEST: MIL-B-131 Cyclic Exposure Test
E	36	Can contained one unpreserved standard steel test rod wrapped with a Grade A, Type II, greaseproof barrier material
F	36	Same as Group E except the standard steel test rods were preserved with USA 2-84b
G	36	Can contained one unpreserved automotive spare part enclosed in a Grade B (Class a), greaseproof bag. Part was cushioned in bag with sheet of asphalt bonded, waterproof barrier material
H	36	Same as Group G except that spare part was preserved with castor oil
I	36	Same as Group G except that spare part was preserved with a commercial type preservative and blocked with a greaseproof fibre tube
J	36	Same as Group I except that the spare part was not preserved
K	36	Can contained one unpreserved standard steel test rod wrapped with a Grade A, Type II, greaseproof barrier material plus a 2-oz. bag of desiccant
L	36	Can contained one unpreserved automotive spare part enclosed in a Grade B (Class a), greaseproof bag plus one 2-oz. bag of desiccant
M	36	Same as Group H except that intermediate packing was varied
N	13	Cans had zinc-bond metal closures and were filled with kraft-backed cellulose cushioning
O	13	Same as Group N except that terneplate metal closures were used
P	13	Same as Group N except that electrolytic tinplate metal closures were used

Description of test packs

The test packs were divided into groups to facilitate reference to the various conditions involved in the investigation. The details of the individual groups are given in Table I.

Laboratory test procedures

Water-vapor transmission rate determination test. The 95 sealed spirally wound metal-end fibre cans of Groups A, B, C and D were used to determine the water-vapor transmission rate of the packs. The procedure used for this test was as follows:

1. Each sealed can was weighed to 1/100 gram.

2. Five representative samples from each of Groups B, C and D were opened and inspected to look for any noticeable change in the contents between the time the can was packaged and the start of the water-vapor determination. The moisture content of the desiccant used in the cans of Groups B and D was determined to obtain the average moisture content of the desiccant at the start of the test.

3. The remaining 20 cans of Groups

TABLE II—CYCLIC EXPOSURE TEST*

Day	*Time*	*Exposure condition*	*Condition when rough handled*
1	10 a.m. to 4 p.m.	Room temperature	
	Overnight	160 deg. ± 5 deg. F., 60 ± 4% RH	
2	8-	Six falls in drum	Warm
	8-2	Room temperature	
	2-4	—65 deg. ± 3 deg. F.	
	Overnight	160 deg. ± 5 deg. F., 60 ± 4% RH	
3	8-2	Room temperature	
	2	Six falls in drum	Room temperature
	2-4	—65 deg. ± 3 deg. F.	
	Overnight	160 deg. ± 5 deg. F., 60 ± 4% RH	
4	8-2	Room temperature	
	2-4	—65 deg. ± 3 deg. F.	
	4	Six falls in drum	Cold
	Overnight	160 deg. ± 5 deg. F., 60 ± 4% RH	
5	8	Six falls in drum	Warm
	8-2	Room temperature	
	2-4	Tap-water spray	
	Overnight	160 deg. ± 5 deg. F., 60 ± 4% RH	
6	8-2	Room temperature	
	2	Six falls in drum	Room temperature
	2-4	Tap-water spray	
	Overnight	160 deg. ± 5 deg. F., 60 ± 4% RH	
7	8-2	Room temperature	
	2-4	Tap-water spray	
	4	Six falls in drum	Room temperature
	Overnight	160 deg. ± 5 deg. F., 60 ± 4% RH	
8	8-2	Room temperature	
	2-4	Tap-water spray	
	Overnight	Room temperature	

* The MIL-B-131 cyclic exposure test was used rather than the MIL-P-116 cyclic test because an attempt was made to determine just how good a pack it was possible to make with a fibre can. Another factor was responsible for this decision. It was felt that since other barrier materials (except metal which has a MVTR of approximately zero) used to provide Method II protection are required to meet the MIL-B-131 cyclic test that the fibre can type of barrier should be required to meet the same test.

TABLE III—WATER-VAPOR TRANSMISSION RATE OF FIBRE CANS WITH A SILVER SANDWICH-TYPE BARRIER

Lot No.	*Duration of exposure*	*Average moisture pick-up of cans and contents, grams*	*Average moisture content of desiccant, percent*	*Water-vapor transmission rate, gm/can/24 hrs.*
		Group B Fibre Cans		
1	None	—	8.9	—
2	19	4.45	12.2	0.18
3	25	6.15	11.6	0.18
4	33	8.14	11.9	0.19
5	40	8.55	13.0	0.16
		Group D Fibre Cans		
1	None	—	9.9	—
2	19	3.42	15.3	0.11
3	25	5.43	17.5	0.15
4	33	7.24	21.7	0.16
5	40	7.93	19.7	0.15

A, B, C and D were placed in a humidity cabinet operating at approximately 100 deg. F. and 93% relative humidity.

4. The cans were removed from the humidity cabinet after 48 hours, cooled for 15 minutes in a room maintained at approximately 72 deg. F. and 50% relative humidity, weighed, and then returned to the humidity cabinet.

5. Step four was repeated at the end of 72 hrs. and at 24-hr. intervals thereafter until the average gain in the weight of the can between consecutive weighings indicated a constant gain. When this point was reached, five cans from each Group B, C and D were opened for inspection and for the determination of the moisture content of the desiccant from the cans of Groups B and D.

6. At weekly intervals, five additional cans from Groups B, C and D were opened and inspected until all

2. UNPRESERVED standard steel test rod and fibre can, showing condition after test.

3. PRESERVED standard steel test rod and fibre can, showing condition after the test.

4. WITH DESICCANT packing, unpreserved standard steel test rod after cyclic exposure test. Moisture content of desiccant increased from 9 to 23%.

TABLE IV—EFFECTIVENESS OF METHOD II PACK

Lot No.	*Duration of exposure, days*	*Condition of contents*	*Average increase in weight, grams per can*
1	None	Good	——
2	19	Slight line of corrosion appeared on steel rod	1.31
3	25	More distinct line of corrosion on steel rod	1.50
4	33	Flecks of corrosion appearing all over steel rod	2.00
5	40	Heavy corrosion evident all over steel rod	2.26

TABLE V—RESULTS OF CYCLIC EXPOSURE TESTS OF VARIOUS METHODS OF PACKING ITEMS IN SPIRALLY WOUND METAL-END FIBRE CANS

Group designation	*Brief description of packed item*	*Brief description of condition of contents after cyclic exposure test*
E	Unpreserved standard steel test rod	Pack contained moisture and steel test rod was corroded heavily over entire surface (see Fig. 2)
F	Standard steel test rod preserved with USA-2-84b	Pack contained moisture and steel test rod was corroded moderately over entire surface (see Fig. 3)
G	Unpreserved automotive spare part with interior wrapping	Pack contained moisture and automotive spare part was corroded heavily
H	Automotive spare part preserved with castor oil	Pack contained moisture and automotive spare part was corroded moderately
I	Automotive spare part preserved with a commercial type preservative	Pack contained moisture but the automotive spare part was not corroded
J	Unpreserved automotive spare part without the interior wrapping	Pack contained moisture and automotive spare part was corroded heavily
K	Unpreserved standard steel test rod plus desiccant	Pack was dry and steel test rod only corroded slightly, moisture content of desiccant increased from 9% to 23% (see Fig. 4)
L	Unpreserved automotive spare part plus desiccant	Pack was dry and automotive spare part only corroded slightly; moisture content of desiccant increased from 9% to 23%
M	Same as H but with different method of interior packing	Same results as in H

cans had been removed from the humidity cabinet.

7. The water-vapor transmission rate of the fibre cans was determined from the average moisture pick-up of the enclosed desiccant during a given period of exposure in the humidity cabinet.

The sealed, empty cans of Group A were used as a control to determine the differences in the gain in weight of empty cans and of cans containing desiccant and/or load.

Cyclic exposure test. The 324 sealed spirally wound metal-end fibre cans of Groups E through M were overpacked 18 per intermediate fibreboard carton and one carton per nailed wood box (See Fig. 1) and subjected to the cyclic exposure test specified in Military Specification MIL-B-131 shown in Table II. (See preceding page.)

Analysis of test results

Water-vapor transmission rate. Group A—The empty sealed spirally wound metal-end fibre cans of this group were placed in the humidity cabinet the same as the filled cans to determine how much moisture was picked up by the empty can alone. The gain in weight of the can was used to measure the moisture pick-up and is indicated in the following tabulation.

Lot No.	*Exposure in humidity cabinet, days*	*Average increase in weight of cans, grams*
1	19	1.25
2	25	1.54
3	33	1.83
4	40	1.95

Groups B and D—The primary purpose of placing these groups of fibre cans in the humidity cabinet was to determine the water-vapor transmission rate of the fibre cans. The water-vapor transmission rate was based on the moisture pick-up of the enclosed desiccant only and the results are shown in Table III. The main difference in these two groups of cans was that the Group D cans contained a standard steel test rod in addition to the 2-oz. bag of desiccant.

Group C—The fibre cans containing an unpreserved standard steel test rod without the addition of desiccant were placed in the humidity cabinet to determine the effectiveness of the can as a Method II pack. The results of this exposure are shown in Table IV.

Cyclic exposure tests. Groups E through M—The fibre cans of these groups either contained an unpreserved steel test rod with or without desiccant, a preserved steel test rod, an unpreserved automotive spare part with or without desiccant, or a preserved automotive spare part. All of these items were packed as described previously and subjected to the cyclic exposure test also described previously. The purpose of this part of the tests was to expose the standard steel test specimens and the actual automotive spare parts to a wide variety of temperature and humidity conditions which they might be subjected to under actual military shipment and storage. The results of these

(*This article continued on page 241*)

THIS FILM GIVES HARDWARE MORE "SELL"

Hardware customers like to examine what they buy. These envelopes with windows of BAKELITE Vinyl Cast Film let them do just that. Contents are in plain sight – display themselves, sell themselves. Clerks are free for bigger sales.

The buyer instantly sees the details of these brass fittings. Yet they resist tarnishing because they're never touched. The windows of BAKELITE Vinyl Cast Film have outstanding transparency *combined with a toughness that means long-lived protection.*

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Questions & Answers

This consultation service on packaging subjects is at your command. Simply address your questions to Technical Editor, Modern Packaging, 575 Madison Ave., New York 22, N. Y. Your name or other identification will not appear with any published answer.

Corrugated plastic liners

QUESTION: One of our products uses a single-faced corrugated glassine strip which is used to line a folding carton to hold one of our products in proper position. It is necessary that this insert be cut very accurately so that the corrugations come in the proper positions to act as spacers. Due to the difficulty we have had with the paper liners, we would like to consider the use of some other material —perhaps a plastic. The liner must be resistant to fats and dampness and should have good strength. Can you suggest a material that would be satisfactory for our use?

ANSWER: There are several different plastic films that could be corrugated and cut for use as a liner in your carton. These corrugated plastic liners would be sufficiently dimensionally stable, so that they could be cut with precision. The problem is to find the most suitable and economical plastic film for this unusual use. It is suggested that you try films of cellulose acetate and polystyrene. These films are made in various thicknesses and in some cases with different physical properties such as plasticity. Because of cost, it will be necessary for you to use as thin a film as will meet requirements for holding the product. It will also be necessary to evaluate these films after accelerated storage in contact with the product. There are many companies who are capable of corrugating and cutting the plastic films and who can submit samples to you of different materials.

Eliminating unpleasant odors

QUESTION: One of our products is a baked and ready-to-eat cereal product which we package in small sizes in a folding carton with a waxed glassine or cellophane liner. Our packaging machine makes a heat-sealed liner and we use the two materials interchangeably. The product contains sugar, cereals, some fat, flavoring and is shaped and baked.

We have been receiving some complaints of unpleasant odors when the package is opened. We picked up packages from various stores and found the product crisp but carrying "off" odors of varying amounts. Can you suggest a change in our packaging to solve this complaint?

ANSWER: The complaint of "off" odors and flavors is due to varying degrees of rancidity which have developed in your product. The product is a complex mixture containing fat which has been heated, making it easily oxidized in storage. You should do everything possible to make your product more stable by the proper choice of ingredients, processing conditions and equipment. The proper package form and choice of packaging materials can be of great help in keeping your product usable over its usual shelf life. Your present packaging material is providing sufficient moistureproofness, but both glassine and cellophane have the inherent property of not being permeable to many organic vapors and odors. The result is that as portions of your product oxidize, the resulting odors accumulate in the liner, producing an unpleasant sensation when the package is opened. After opening, these odors are soon dissipated and apparently the oxidation has not gone far enough to affect the taste of the product.

The answer to this problem is to use heat-sealing, moistureproof materials which will allow these odors to escape as they are formed. In your case the use of waxed sulphite paper with at least 10 lbs. of wax per ream as a surface coating will give adequate moisture protection and keep your product from developing unpleasant odors.

Plastic bags that mold and fog

QUESTION: We have been experimenting with the packaging of vegetables and fruit in transparent plastic bags. Our preliminary tests showed no fogging or molding if several holes are punched in each end of the bags. However, when we make a trial shipment we get some poor results. Can you tell us what might cause this reversal of tests?

ANSWER: Your experiments have probably been done with single bags under ambient conditions of temperature and humidity. Under these conditions you will notice a difference in the number and size of the holes in venting excess water vapor from inside the package. However, when you put a dozen or more bags in a shipping case or crate and pile them into a truck or storage space, conditions have been changed. First, many of the holes are covered by the product or blocked by other bags and then the mass of bags leaves only the outer ones in a position to lose their moisture. If a tight case is used or if cases are tightly stacked, then the moisture loss is reduced and molding or fogging can occur. Water vapor will only migrate if there is a vapor-pressure differential, but will not move through a hole if the air on both sides is saturated. The answer is to punch several more holes in each bag and to use spacers between layers to ventilate the boxes, to allow spaces between boxes and to ventilate the room or truck body. Some of your spoilage may also be due to the absence of oxygen in the center of a tightly packed mass of fruit or vegetable products.

2 Big Benefits for Your Package

with CEL-O-SEAL

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"Over the past 5 years the increasing popularity of Sno-Bol Bowl Cleaner has forced wider and wider distribution until now it's almost nation-wide. Part of the answer behind these expanding sales, we feel, is our sales-appealing Sno-Bol package with its snowy Du Pont 'CEL-O-SEAL' neckband. And functionally, 'CEL-O-SEAL' bands insure that the Sno-Bol cap remains in place from factory to retailer.

"Needless to say, we're highly pleased that 'CEL-O-SEAL' is giving our package those two big advantages . . . and doing it economically, too."

Says **Mr. Thomas O. Render**
President
M&R Manufacturing Company

Eye-catching Du Pont "Cel-O-Seal" bands will work for your product, too! In addition to holding closures tight, they guard against tampering and spillage, inspire consumer confidence. And "Cel-O-Seal" bands are available in a wide range of colors . . . can be printed with your sales message or slogan.

Free packaging service: See what "Cel-O-Seal" can do for your package. Send us a labeled dummy bottle. Our package experts will band it, return it for your inspection. No obligation, of course. Write: E. I du Pont de Nemours & Co. (Inc.), "Cel-O-Seal" Section, 9529-A Nemours Building, Wilmington 98, Delaware.

"Cel-O-Seal" cellulose bands are also sold by Armstrong Cork Co., Lancaster, Pa., and on the West Coast by I. F. Schnier Co., San Francisco, California.

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DU PONT CEL-O-SEAL BANDS

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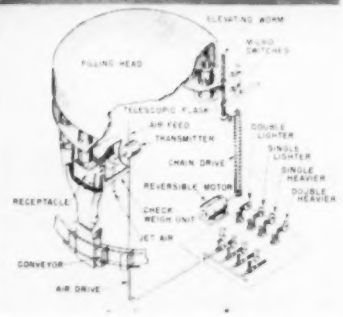
Equipment and materials

A NEW HIGH-SPEED PACKAGE
called the Velocitron, designed for producing siftproof packages at speeds up to 300 per minute, has been announced by the Pneumatic Scale Corp., Ltd., Quincy 71, Mass. The equipment

handles the operations of carton-blank feeding, setting up of the carton in continuously moving pockets, sealing the bottom flaps, measuring the product by volume, depositing fill load into cartons and glue sealing the carton top flaps. The entire operation is done without the need for transferring cartons from one mechanism to another. Volume measuring is done through use of adjustable flasks mounted on a turret which rotates in synchronization with carton pockets. The flasks discharge a measured volume of product into the bottom-sealed cartons as they travel in a semi-circle around the end of the machine.

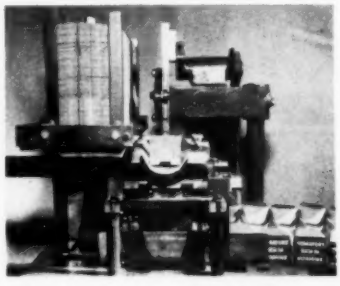


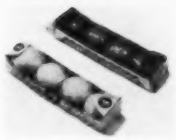
Built into the unit is a weight-control apparatus consisting of (1) a Pneumatron check-weighing device, (2) a volume-adjusting device which, by means of a reversible motor, changes the volume of all 12 measuring flasks simultaneously and (3) a combination weight-recording and control device which acts on a signal from the check weigher to actuate the volume-adjusting motor. Through use of this system, the company reports, package-weight variations caused by density is reduced at least by half. According to the manufacturer, the equipment has been in successful operation with granulated soap and detergent products.

A NEW SEMI-AUTOMATIC CELLOPHANE WRAPPER
designed for self-service stores has been marketed by Wrapping Machinery Co., Franksville, Wis. The machine is adaptable for standard tray wrapping and sealing of meats, baked goods, poultry and produce. Designed as a smaller-investment unit for limited production operations, the "Superwrapper" is said to be easily adjusted for tray sizes to make tight, heat-sealed cellophane packages and to be completely portable. Speeds up to 12 packages per minutes with one operator are claimed. The heat-seal table is thermostatically controlled.

The company also offers a self-contained hand-wrapping station, called "Speedwrapper," comprising a thermostatically controlled hotplate and storage shelves fitted with trays for various sheet sizes of cellophane.

A NEW GLUELESS TRAY
which can be set up from tray blanks either by hand or automatically on special machinery has been introduced by Alford Cartons, division of Continental Paper Co., Ridgefield Park, N.J., under the name of Rigid-Pak. Gluing is not used in any stage of its manufacture, set-up or use. According to the manufacturer, the unique formation of the ends of the tray supplies a particular strength and rigidity which eliminates the need for extra-heavy board. While initial use for the tray has been in packaging tomatoes, adaptations have been made for other fields. A specially designed Rigid-Pak machine, which can be leased by the user, is capable of producing 30 to 90 trays per minute and is easily adjusted to any intermediate speed. Flat blanks are fed into the simple electrically operated machine and a plunger arm shapes the tray and locks the ends firmly together. Completed trays can be ejected in any manner suitable to the packer, whether it be to bins, tables or conveyor belts.





CONSTANT-TEMPERATURE, HOTPLATE FILM SEALER
designed for accurate, rapid pre-packaging operations at the retail level has been marketed by Glenn Electric Heater Corp., 254-258 Canal St., New York 13. A patented resistance heater of tubular construction, the Glenn hotplate reportedly produces a thermostatically controlled temperature within a range of 500 deg. F. The sealing surface may be furnished in a variety of shapes or finishes including grooved, ridged or diamond-patterned finishes. Special coating on the heating surface prevents sticking of adhesive materials during sealing, it is said. The standard Glenn hotplate has a 9-by-12-in. sealing surface in highly polished chrome finish. Steel and aluminum surfaces are also available. Auxiliary timers for automatically turning the unit on or off at pre-set times are available as optional equipment.

TWO SPECIAL-PURPOSE ADHESIVES
announced by the Rubber & Asbestos Corp., Dept. "P," 225 Belleville Ave., Bloomfield, N. J., are Bondmaster L272 and Bondmaster L440, developed specifically for bonding DuPont's new Mylar polyester film to a wide range of papers, plastic films, fabrics, etc. Bondmaster L440 bonds Mylar to paper for sterilization-resistant applications and is said to retain a strong,

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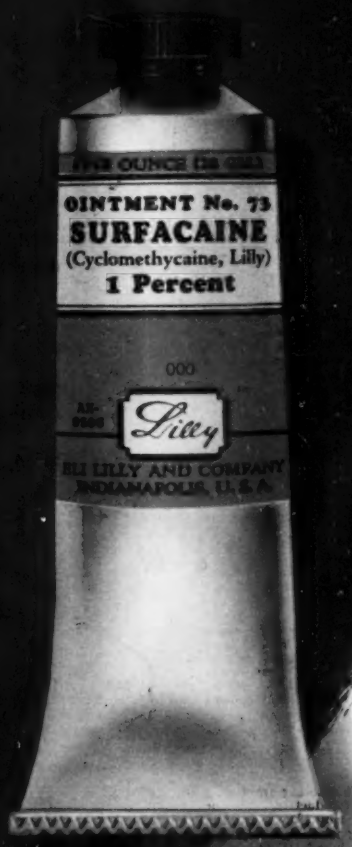

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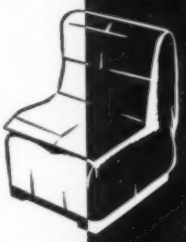
PACKAGING *that* SAFEGUARDS



Forty-nine years ago Kennedy's single responsibility was to safeguard product quality through protective dimensional packaging.

—or SELLS

Then came the need for "sell" in packaging, and Kennedy met that challenge, too. Today packaging is a combination of both "protection" *and* "sell" in the fullest sense.

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And today, *Kennedy's mile-long production line of men and machines* is constantly at work turning out flexible material packages of paper, plastic and foil that protect while they sell . . . the products of industry.

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Fabricators of bags, liners, covers, shrouds and component parts of papers, plastics and foils.
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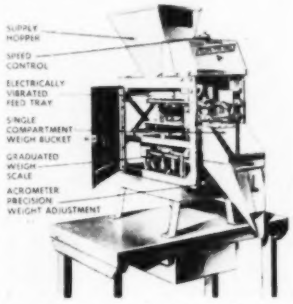
Equipment and materials

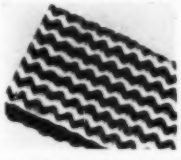
fibre-tearing bond without discoloring after being subjected to a live steam sterilization chamber for 30 minutes at 250 deg. F. Bondmaster L272 offers high dielectric strength for laminations used in insulations for motors, transformers, etc.

A NEW TABLE-MODEL NET WEIGHER AND FILLER has been introduced for the lower-price market. The new semi-automatic machine, developed by the Triangle Package Machinery Co., 6633-55 W. Diversey Ave., Chicago 35, is designed to fill almost any type of dry, relatively free-flowing product into any type of container. The table-model Elec-Tri-Pak automatically weighs and fills up to 20 packages a minute with a high degree of accuracy, according to the company. Many features available in the higher-priced, fully automatic model manufactured by Triangle are also available in this new model. Included are: vibratory-feed tray, controlled-beam weigh scale, single-compartment weigh bucket, speed control and Acrometer weight adjustment. Units are available which handle a weight range from 2 oz. to 5 lbs.



A NEW HIGH-GLOSS POLYSTYRENE ALLOY SHEET that is said to have a surface finish resembling porcelain enamel has been announced by the Campco Div., Chicago Molded Products Corp., 2717 N. Normandy Ave., Chicago 35. Called Campco S-300GM, this new sheet is washable and easy to keep clean. The company reports that it can be fabricated into complex shapes inexpensively on a production basis by vacuum forming or similar techniques used to form rigid thermoplastic sheet. Thus, it is suitable for making point-of-sale display pieces. The sheet comes in white, standard-sized sheets 39 by 72 in., 0.080 in. and 0.100 in. In quantity orders, it can be supplied in 39-in. widths and any desired length.

A NEW SINGLE-SHEET CUSHIONING MATERIAL reported to give greater protection per cost than others has been announced by the Sherman Paper Products Corp., Newton Upper Falls, Mass. The new sheet, called "Sherm-A-Pak," is formed by combining tremendous pressure and temperature to forge the fibres of the sheet into a tough, permanent, cushioning crimp. The tremendous force which puts the cushioning into the fibre is said to keep the fibres "live" and thus less of the material is required for the same amount of protection. Sherm-A-Pak is available in virgin and processed kraft, in a variety of weights, and may be had in rolls, sheets or special die cuts for custom packaging.



A READY-TO-USE PALLETIZING ADHESIVE for unit loading of bag or case shipments, introduced by Swift & Co.'s General Adhesives Dept., Chicago 9, Ill., is designed to resist horizontal shifting during transit but to release easily on

Selling Aid FOR A Beauty Aid

the Ritchie display dramatizes the value

HOW A RITCHIE SALESMAN'S CREATIVE SELLING GAVE LADY ESTHER LTD. A FINE PACKAGE

The merchandising department at Lady Esther wanted a special display carton for an entirely new beauty aid, Estrogenic Hormone Cream. A quality display for a quality product. A Ritchie salesman was called in.

The Ritchie salesman interpreted the requirements to Ritchie designers—a creative process, because it involved the translation of those characteristics that make a package effective into terms of materials, construction, design, and color.

Out of this creative process came this packer-display serving a dual merchandising purpose.

aids in the selling

protects the product

P.S. *The creative interpretation of the customer's needs is the most important part of a Ritchie salesman's job.*

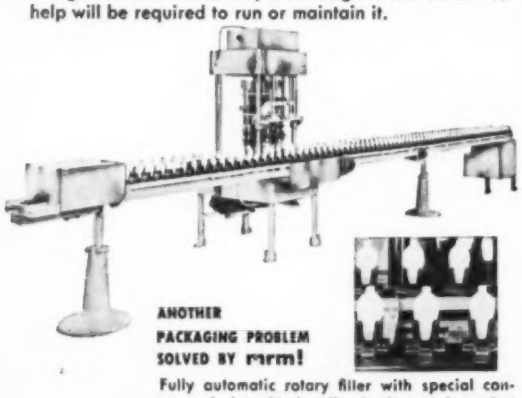
Are you in need of folding cartons, transparent packages, paper spools, set-up boxes, fibre cans? Put this kind of Ritchie "creative selling" to work for you without cost or obligation. Write today.

W. C. Ritchie AND COMPANY

8841 BALTIMORE AVENUE, CHICAGO 17, ILLINOIS

New York Los Angeles Detroit Dallas Denver Rochester St. Louis Cleveland Seattle Jacksonville Memphis

We are pioneers in the development and manufacture of filling machines. As specialists, we've been called on to develop machines to fill containers that were considered impossible. We always came up with the answer. No matter what the material we will make the machine to do your filling . . . and it will be simple in design so that no skilled help will be required to run or maintain it.



ANOTHER PACKAGING PROBLEM SOLVED BY mrm!

Fully automatic rotary filler with special conveyor designed to handle plastic containers that couldn't be moved on standard conveyor. Special adaptors spaced over entire length, firmly hold container in place while filling at top speed.

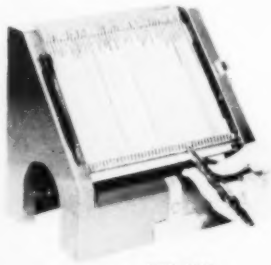
Write Dept. MP-5 or phone for an MRM packaging engineer . . . no obligation

mrm company, inc.
191 BERRY STREET, BROOKLYN 11, N.Y.
EVergreen 7-3936
Manufacturers of a complete line of fully automatic and semi-automatic filling equipment and fully automatic labeling machines.

Equipment and materials

vertical pull. This non-skid, moisture-resistant adhesive is said to provide an immediate strong bond when applied either by machine or by brush. Tests on trial shipments show that an average of 1 gal. is sufficient to palletize a carload shipment.

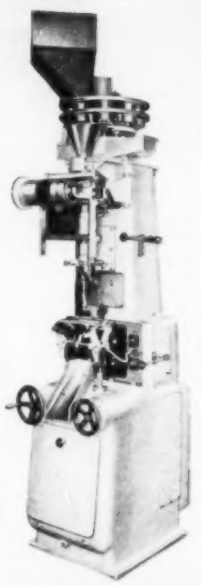
A TAG, LABEL AND FORM IMPRINTER called the "Jiffy Print" is available from the American Tag Co., 153 Cortlandt St., Belleville, N. J. According to the company, the Jiffy Print uses the fastest-known method of setting individual type. Lead type slides quickly from a small, clearly marked type rack holding 42 rows of separate characters by means of a type fork into the printing head. An average amount of copy can be set in 2 min. and copy changes made in a fraction of a minute, the company states. Printing is done through a ribbon that advances with each impression and at the end automatically reverses. Various-colored ribbons are available. Over 200 characters on 11 separate lines can be imprinted with a single impression. Several sizes and styles of type are available and trademarks, signatures and special cuts are reproducible.



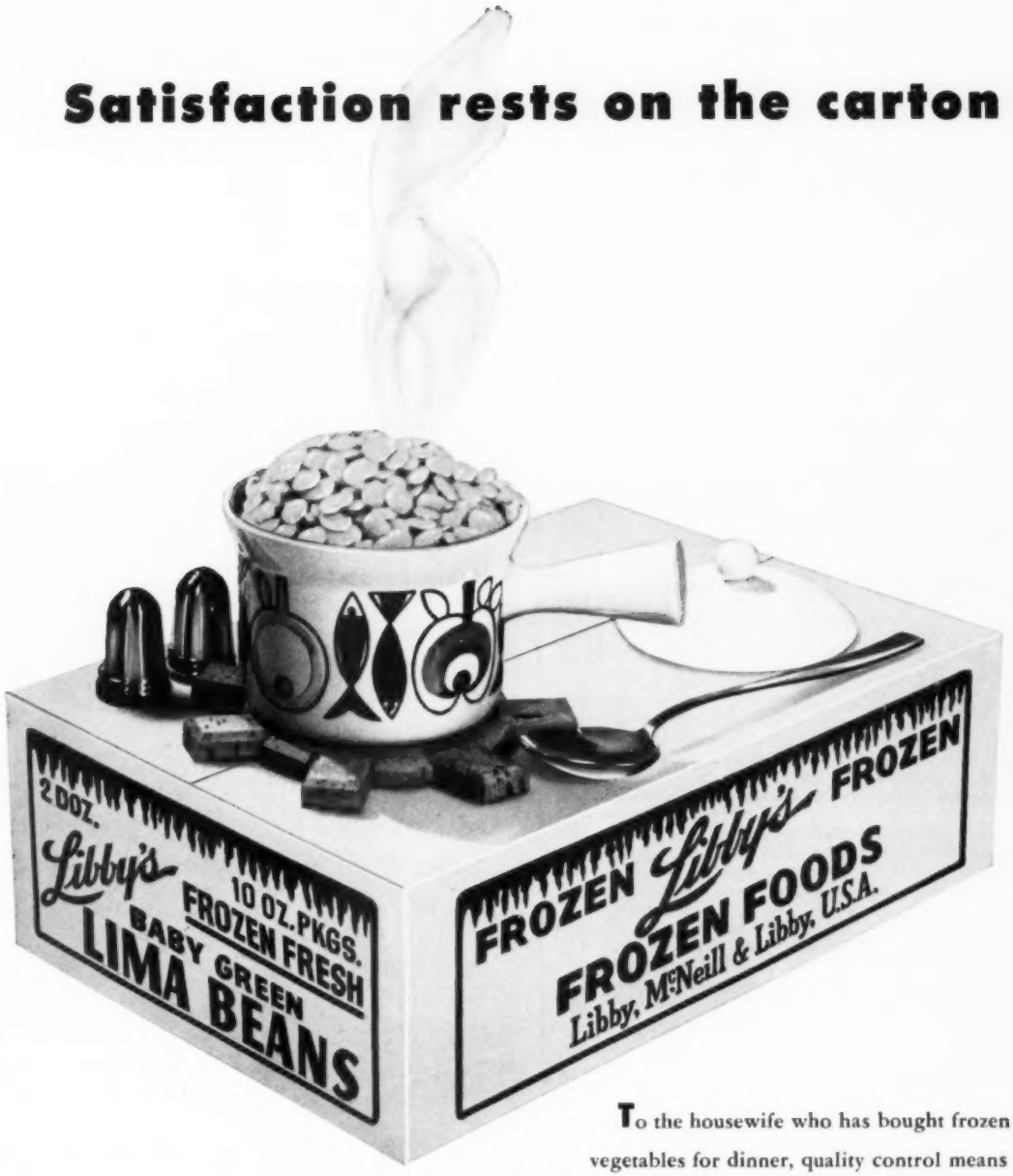
TYPE CASE

PRINTING UNIT

A SINGLE-FEED-HEAD WRAPPING MACHINE identified as the Transwrap 125-A, designed specifically for manufacturers of candies, food items, chemicals, produce, mixes, etc., with smaller volume runs who require flexibility in their packaging operations, was introduced last month by Transparent Wrap Machine Corp., Hasbrouck Heights, N. J., shortly before the announcement of the sale of that company to Package Machinery Co., Springfield, Mass. Reportedly, new features include greater flexibility of interchange of feeds, simplification of the draw-bar mechanism allowing for simple change of package size and style, and simplified control of speed and draw-bar stroke by means of wheel controls on the front of the equipment. Transwrap 125-A is said to accommodate cellophane, laminated aluminum foil and polyethylene, coated kraft papers and others at speeds up to 60 bags per minute—depending on material and product packaged. Photo-electric-eye registration is included and four standard feeds are available: auger, liquid, volumetric and net-weight scales. Range of package sizes runs from 2¾ sq. in. to 4¾



Satisfaction rests on the carton



To the housewife who has bought frozen vegetables for dinner, quality control means simply that she can trust them to look good and taste good when she serves them. One of the safeguards upon which she depends, probably without ever thinking about it, is the shipping carton that carries her vegetables from packer to retailer. Libby, McNeill & Libby is among the many food processors for whom Union corrugated shipping containers continue to do an unheralded but important job.

TRADE MARK
UNION
INTEGRATED PLANNING
INTEGRATED PRODUCTION

UNION BAG & PAPER CORPORATION

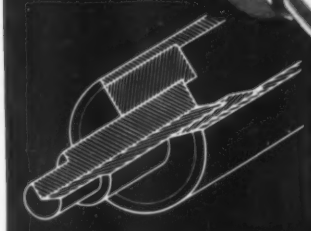
CORRUGATED CONTAINER DIVISION • Box Plants: Savannah, Ga., Trenton, N. J., Chicago, Ill.

Eastern Division Sales Offices: 1400 E. State St., Trenton 9, N. J. • Southern Division Sales Offices: P.O. Box 570, Savannah, Ga.
Western Division Sales Offices: 4545 West Palmer, Chicago 39, Ill. • Executive Offices: Woolworth Bldg., New York 7, N. Y.

For Better Flexographic Printing

Use no-flex PLATE ROLLS

- CAN'T FLEX OR WHIP
- GROUND FINISH INSURES ACCURACY
- FAST DELIVERY
- LOW IN COST



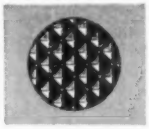
UNCONDITIONALLY GUARANTEED FOR SEVERE SERVICE

CUTAWAY SHOWS HOW EXCLUSIVE PROCESS FUSES ENTIRE JOINT INTO ONE SOLID MASS, INSURING EXTREME RIGIDITY. TUBE CONSTRUCTION REDUCES WEIGHT.

No-Flex — the new plate rolls that completely eliminate flexing and whipping — are your guarantee of a perfect impression. Special high speed lathes and equipment and improved methods of manufacture mean you get precision made rolls, quickly, and at lower cost. All No-Flex rolls are ground finished to your exact specifications and carefully inspected before shipment. The next time you need plate rolls, call Pamarco for faster service, lower cost and a better printing job.

EVENFLO FLEXOGRAPHIC INKING ROLLS METER THE INK FOR BEST RESULTS

EVENFLO ENGRAVED ANILINE INKING ROLLERS — Eliminate ink waste, poor quality runs and rejects due to faulty inking and require no time-consuming adjustments. Evenflo Rollers meter the ink in the exact quantity needed, continuously and automatically. Proper inking — without operator attention — saves stock, ink, press down-time and operator fatigue. Using Evenflo Flexographic Inking Rollers means high production quality — lower production costs.



ENLARGED VIEW OF ENGRAVED SURFACE SHOWS SCREEN THAT AUTOMATICALLY FEEDS CORRECT AMOUNT OF INK.

Quotations on plate, impression and special rolls supplied promptly without obligations

PAMARCO

EVENFLO ENGRAVED ROLLERS
ROLLS FOR INDUSTRY
FAST, NATION-WIDE SERVICE

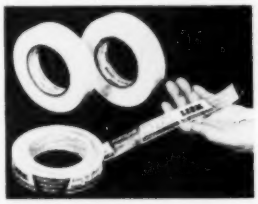
PAPER MACHINERY & RESEARCH, INC.
1014 OAK STREET • ROSELLE, NEW JERSEY

Equipment and materials

by 7 in. for pillow packages and 2¾ sq. in. to 5 by 7 in. for fin-seal packages.

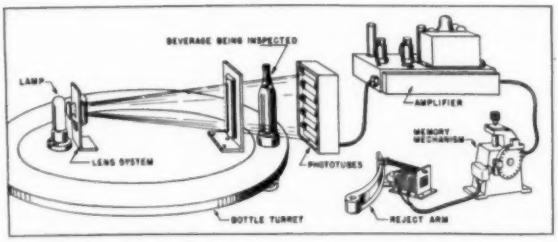
WHITE PRESSURE-SENSITIVE PAPER TAPES

for roll printing by tape printer-converters have been announced by Minnesota Mining & Mfg. Co., 900 Fauquier St., St. Paul 6. The new tapes—"Scotch" brand tapes Nos. 269 and 249—feature all-white paper backings with a high-gloss finish for finer printing of all types of inks, according to the company. Backings will hold pencil, ink or crayon markings, it is claimed. Newly formulated adhesive coatings that offer good adhesion with transfer, high packaging value without delamination and easy unwind for high-speed roll printing are other features. No. 249 has a crepeback backing that permits it to adhere to irregular surfaces, while No. 269 has a flatback backing for general-purpose labeling. Both forms are available in ¾- to 1-in. widths on 60-yd. rolls.



AN ELECTRONIC BEER-INSPECTION MACHINE

is now available which is said to offer brewers savings in operating costs and greater assurance of product quality. The new inspection tool was developed by the Engineering Products Div. of the Radio Corp. of America, Camden, N. J., and is an outgrowth of similar machines developed for the soft-drink industry. Heart of the new device is a bank of 10 electronic-eye phototubes which monitor the contents of bottles as they are conveyed from the pasteurizer to the labeler. Sensitivity of the



mechanism is said to detect minute, transparent bits of foreign matter such as particles of glass or cellophane. When the impurities are encountered, the phototubes trigger a memory circuit controlling a reject arm, which diverts the contaminated bottle onto a reject table from the normal flow along the conveyor. In order to detect differences between foreign particles in the beer and blemishes in the bottles themselves, the containers are rotated rapidly and stopped suddenly so that the contents continue to swirl. Necks of the bottles are masked off from the penetrating inspection light so that foam which is generated by swirling is not mistaken for impurities. The new inspection machine is adaptable for 12-oz. export, 11-oz. stub-

Make Your Package Your Crack Salesman!

EKCO - FOIL CONTAINERS

The Greatest Packaging Development of the Century!

Ekco-Foil, the wonderful new pre-shaped aluminum foil package, offers advantages no other packaging material can duplicate! You can prepare your product in Ekco-Foil . . . freeze or refrigerate it in Ekco-Foil . . . then sell it in the same attractive Ekco-Foil package. Labor costs go way down . . . and sales go way up! Your bright silver Ekco-Foil package promises quality and convenience to Mrs. Consumer. She just reheats and serves your product right in its Ekco-Foil package. And she can reuse the package too!

Ekco-Foil makes it practical for you to take advantage of this new packaging material right now, because Ekco-Foil is available for immediate delivery in every size and shape you need! Only Ekco has a complete selection! Only Ekco can make your foil containers in any quantity!

Ekco-Foil has never failed to raise sales for any product. Why not see what it can do for you!

EKCO PRODUCTS COMPANY
1949 N. Cicero Avenue, Chicago 39, Illinois
Also Available From Ekco Products Company (Canada) Ltd., Toronto

VALUABLE COUPON

EKCO Products Company, Ekco-Foil Container Division MP-5
1949 N. Cicero Avenue, Chicago 39, Illinois

( ) Please send Bulletin and samples.
( ) Please have representative call.

FIRM _____

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CITY _____ ZONE _____ STATE _____

We are interested in Ekco-Foil for packaging _____
please list products

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the leaders choose Ringwood for liquid packaging

Carefully formulated material must be packaged with the finest equipment under strict quality control.

Firms with high standards, such as General Electric X-Ray Department and Remington Rand in the photography field; Motomco in rodenticides; Panogen in agricultural chemicals; and the U. S. Government with its far reaching usage for liquid packaging, have asked Ringwood to do the job for them.

With a staff of experienced chemists and a modern stainless steel liquid packaging line, Ringwood is equipped to work out formulations as well as package your product in either cans or bottles.

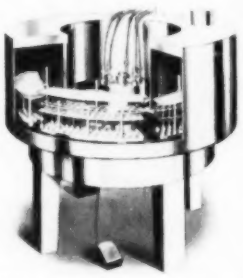
How can Ringwood help you?

RINGWOOD CHEMICAL CORPORATION
1 CHEMICAL ROAD, RINGWOOD, ILLINOIS
Formerly The Edwal Laboratories, Inc.

Equipment and materials

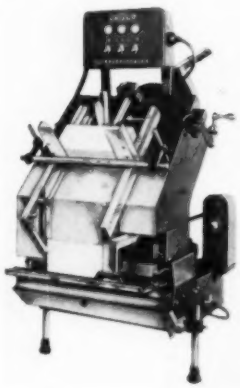
bie or 7 oz. pony bottles and can be adjusted to inspect from 60 to 150 bottles per minute.

A NEW AMPOULE RINSER
of advanced design and high-quality construction has been announced by the U. S. Bottler's Machinery Co., 4015 N. Rockwell St., Chicago 18, Ill. The new unit is built entirely of stainless steel, including the frame and chassis. Bases of the rinser spouts are made of Teflon. Valves of stainless steel have Teflon valve seats that never require lubrication, which saves servicing and provides protection against foreign matter being introduced into the ampoules. The machine has six manifolds, each manifold advancing one-sixth of a revolution, bringing another manifold to unloading and reloading position. The rotary movement is advanced by a foot switch. Its principle of thermal shock cleaning eliminates the use of a detergent and consequent removal of the detergent. The machine is designed to modernize ampoule-rinsing operations, reduce rinsing costs and to effect lower machine cost over a period of years, according to the supplier.



AN IMPROVED LABEL HOPPER
in the Amsco automatic high-speed jaw bag sealer, enabling rapid change-over to different label widths, has been announced by Amsco Packaging Machinery, Inc., 31-31 48 Ave., Long Island City 1, N. Y.

The label device, which accommodates labels from 2¼ to 8 in. wide, operates by a simple hand-screw adjustment which simultaneously centers the label in relation to the sealing jaws while re-adjusting the width of the hopper. Square, rectangular and die-cut labels on either casein or thermoplastic stock can be handled. The machine automatically header labels and seals cellophane, polyethylene, Pliofilm and other heat-sealable materials.



A HIGH-SPEED BEER-CAN CLOSING MACHINE
capable of operating at speeds above 600 per minute is now in quantity production, according to American Can Co., New York, makers of the eight-spindle machine. A pilot model has been in operation for about a year and is reported to be highly efficient.

INCREASED BLANK-FEEDING EFFICIENCY
is possible with the new Staude Timed Bottom Feeder, now available as an accessory to the Staude Master Gluer, according to the E. G. Staude Mfg. Co., Inc., 2675 University Ave., St. Paul, Minn., maker of the equipment. The new unit, particularly adapted for hard-to-handle and slippery materials, feeds blanks by utilizing both gravity and mechanical actuators, and is espe-

Introducing the ***New***

POTDEVIN S.O.S. Bag Machine

for High-Speed Production of

SUPER MARKET CARRIER BAGS

Here is the latest development in paper bag machinery for mass production of the new super market self-opening-square carrier bag. It is entirely automatic, producing finished bags direct from rolls of paper at the highest rates of speed for this style of bag.

Multi-colored printed bags produced in one operation with a Potdevin Flexographic Press combined with bag machine.

The POTDEVIN Model 84RKW produces bags within the following range:

Minimum Tube Length	15"
Maximum Tube Length	28"
Minimum Bottom Width	3¼"
Maximum Bottom Width	6½"
Minimum Bag Width	7 1/16"
Maximum Bag Width	12"
Minimum Paper Width	21"
Maximum Paper Width	38"

Side seam arrangement permits location of the seam anywhere between edge and center of tube.

The standard machine is supplied with the following:

- Parts for making one size of Super Market Bag.
- Motor and Reeves power unit.
- Side-seam arrangement.
- Carrier, presser and delivery portion.
- Guards and wrenches.
- Rotary cut-off.

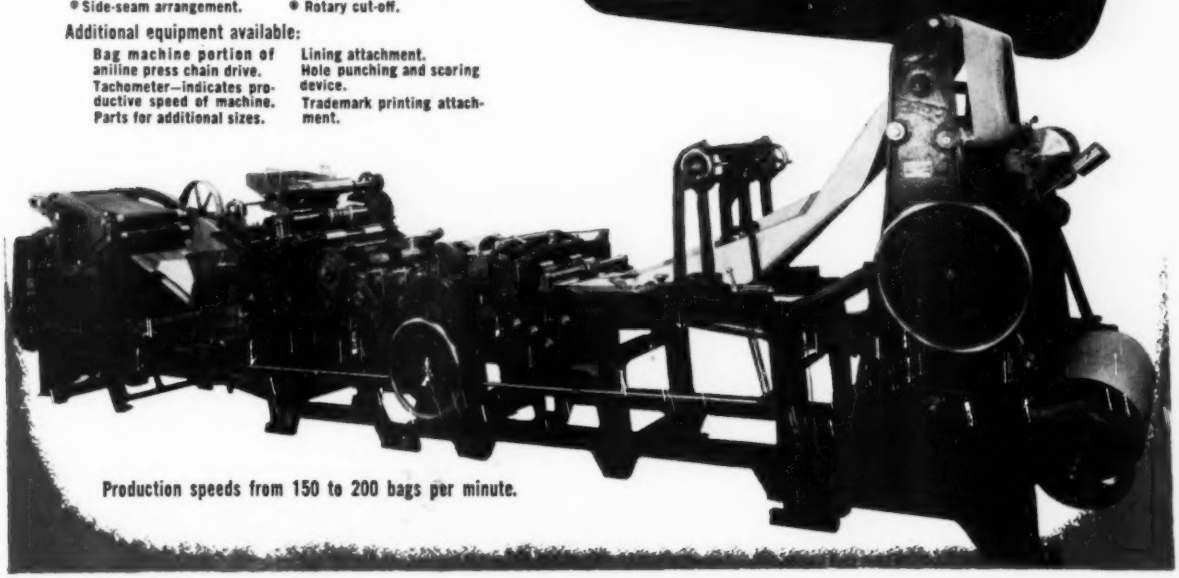
Additional equipment available:

Bag machine portion of aniline press chain drive.
Tachometer—indicates productive speed of machine.
Parts for additional sizes.
Lining attachment.
Hole punching and scoring device.
Trademark printing attachment.

ESTABLISHED 19[illegible]
POTDEVIN

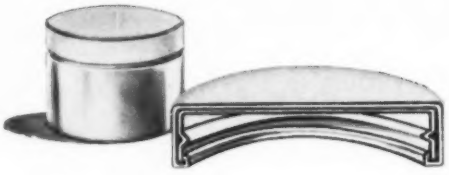
Write for complete information and demonstration arrangements.

POTDEVIN MACHINE CO.
244 North Street Teterboro, N. J.



Production speeds from 150 to 200 bags per minute.

Merit SEAL



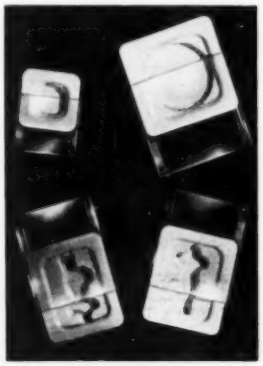
• Merit SEAL outsells all competition. The demand is greater because the "closure" is better.

See for yourself how really attractive and efficient Merit Seal is!

CROWN CORK SPECIALTY CORP.
DIVISION OF
Crown Cork and Seal Co.
St. Louis 15, Missouri

cially suited where 15- and 30-in. timed pin spacing is used. The new feeder allows for quick change-over from single to double feeding.

AN INEXPENSIVE PLASTIC PACKAGE



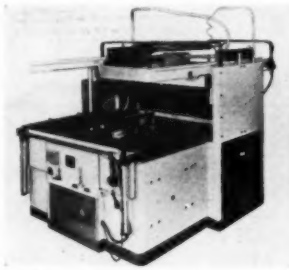
for jewelry or small parts, featuring a colorful, vacuum-formed lower section and beaded, transparent acetate sleeve that slides into position, is offered by Tricell Co., 32 E. 10 St., New York 3.

The bottom is available in several opaque colors and in 21 separate outline sizes up to 4 by 4 in. According to the company, die costs for this type of package are negligible.

Speed of production is reportedly comparable with printing-press speeds and thus production can be geared to the requirements of the packager, thereby reducing his inventory problems.

A NEW DRAPE AND VACUUM-FORMING MACHINE

featuring completely automatic, push-button control of all operations is being offered by the AutoVac Co., 2116 Post Rd., Fairfield, Conn. It has automatic heater travel, automatic drape, automatic vacuum valves, automatic blow-off, automatic stripping and automatic unclamping. According to the company, the machines have been in successful operation in the packaging field, both in making pre-formed packages and packages formed directly over the article, and in the display field. High-speed production is made possible by a universal clamp frame for the plastic sheets, which adjusts from 4 by 4 in. to the machine's capacity in easily set 1-in. increments.

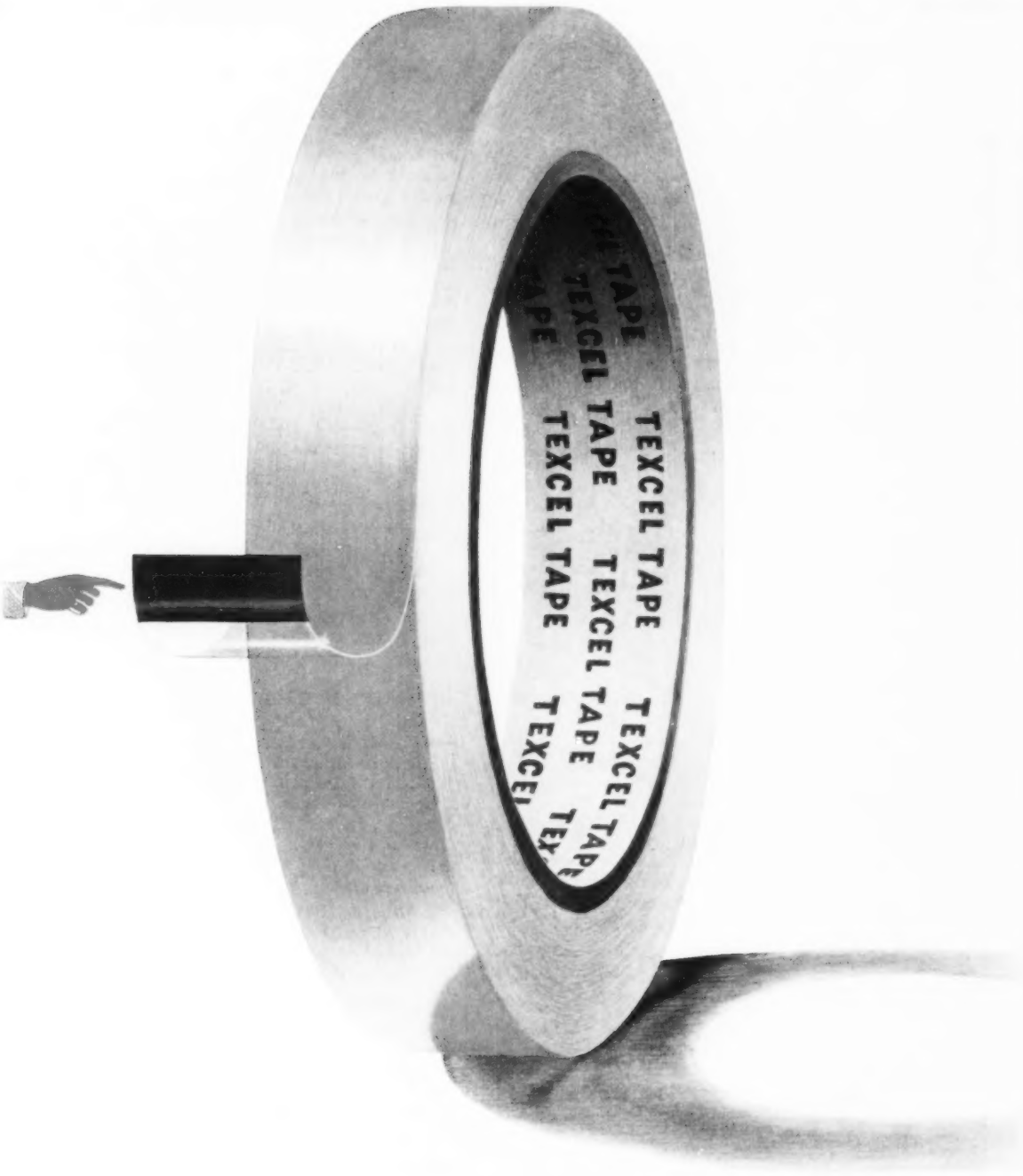


AN IMPROVED PRINTABLE ACETATE-FIBRE TAPE

known as Permacel 992 has been introduced by the Permacel Tape Corp., New Brunswick, N. J., to replace T991 in the company's self-sticking tape line. Backing of the new tape is said to provide excellent anchorage for both oil-base and aniline inks under high-speed printing processes. The tape is represented to meet Government Specifications JAN-P-127, Types III and IV, Grade B.

A PRE-PACKAGING SCALE THAT PRINTS

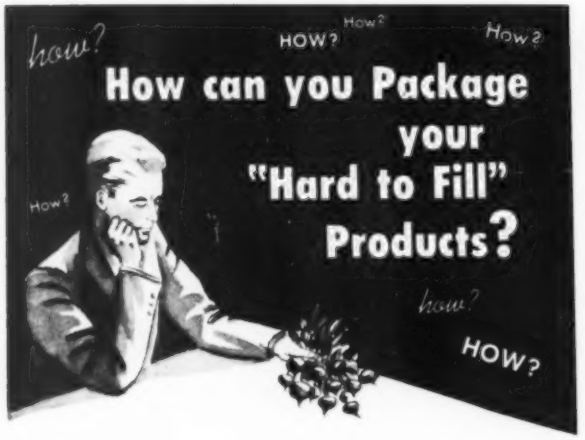
weight, price and value information automatically on a ticket as the package is weighed has been introduced by the Toledo Scale Co., Toledo 1. Accuracy of the weight record is said to be in ¼-oz. graduations. According to the company, the new "Valueprint" scales have undergone an extensive period of development and testing to perfect the new complex design principles and construction. Also intro-



TEXCEL®

CELLOPHANE TAPE

PERMACEL TAPE CORPORATION, NEW BRUNSWICK, NEW JERSEY



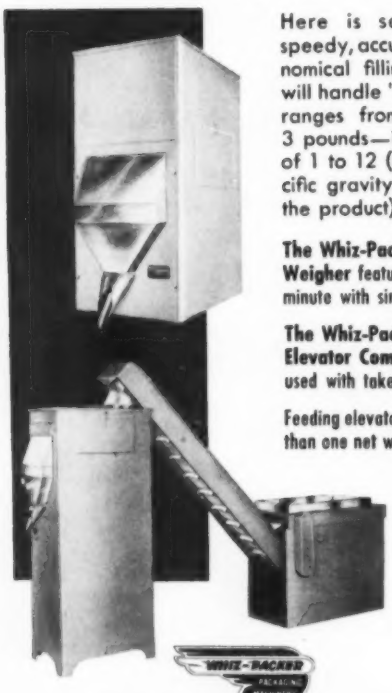
It's easy, fast and accurate with

WHIZ-PACKER NET WEIGHING MACHINERY

First let us "level" on two points:

"Hard to Fill" products such as potato chips, crackers, pretzels, noodles, macaroni, candies, twist wraps, hardware, small produce etc., have been a tough packaging problem—until

Whiz-Packer came up with the right solution—its Net Weighing Equipment in three available models.



Here is sanitary, compact, speedy, accurate, versatile, economical filling equipment that will handle "hard to fill" weight ranges from below 1 oz. to 3 pounds—in a weighing ratio of 1 to 12 (depending on specific gravity and the nature of the product).

The Whiz-Packer Bench Model Net Weigher features speeds up to 30 per minute with single head unit.

The Whiz-Packer Net Weigher and Elevator Combination can readily be used with takeaway conveyors.

Feeding elevators can be used with more than one net weigher.

Send for complete details, specifications and prices.

WHIZ-PACKER PACKAGING MACHINERY

FRAZIER & SON 2944

(20-01) Industrial West—Allwood, Clifton, N. J.

EXCLUSIVE DISTRIBUTORS

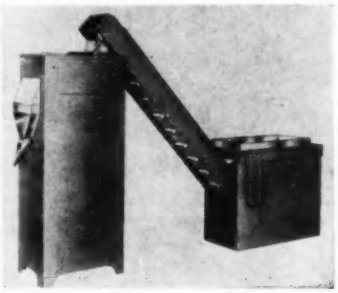
EASTERN STATES—Amsco Packaging Machinery, Inc., Long Island City, N. Y.
WESTERN STATES—Simplex Packaging Machinery, Inc., Oakland, California
MIDWESTERN & SOUTHERN STATES—Miller Wrapping and Sealing Machine Co., Chicago, Ill.
CANADIAN—Phin Sales Company, Toronto, Canada • Export—The Estes Company, Inc., New York, N. Y.

Equipment and materials

duced by the Toledo Scale Co. is its new "Serv-A-Label" imprinter for printing commodity names on pre-packaging labels. The unit is designed specifically for use with the new "Valueprint" scale. The label is fed into the Serv-A-Label in continuous fanfold form so no extra handling is needed. When the imprinter is attached electrically to the Valueprint scale, a printing sequence is established whereby the entire identifying, weighing and pricing operations run consecutively.

A NET WEIGHER FOR HARD-TO-FILL PRODUCTS

such as potato chips, crackers, pretzels, noodles, macaroni, candies, twist wraps, hardware, small produce, etc., has been announced by Frazier & Son, 20 A Industrial West, Allwood, Clifton, N. J. It handles weight ranges from below 1 oz. up to 3 lbs. and in a weighing ratio of one to 12, depending upon the specific gravity and nature of the product. The equipment comes in three models, floor, bench and with elevator combinations. Features of the machines include low maintenance, minimum breakage, rapid weight adjustment and speeds up to 30 per min. with a single-head unit, according to the supplier.



A NEW COATING FOR BREAD WRAPPERS,

developed by Zimmer Paper Products, Inc., 1450 E. 20 St., Indianapolis, is said to offer the advantages of a polyethylene-wax blend without loss of water-vapor resistance and to have 100 to 200% increase in sealing strength, higher gloss and greater scuff resistance. The improved wrapper is called "Zimmer Super-Pliaweld." Tests conducted by independent laboratories are cited by the company showing as much as 56% improvement in WVT rate over standard commercial hard-wax bread wrappers.

FOUR NEW TYPES OF FIBRE CONTAINERS

developed by the Rheem Mfg. Co., 570 Lexington Ave., New York, were displayed at the recent Packaging Show. The all-fibre containers are made in sizes from 1 to 32 gallons and the fibre-metal drums have capacity ranges from 5 to 60 gallons.

Diameters range from 8 to 23 in. and lengths from 7 to 42 in. They can be full-color lithographed or silk screened and coated with plastic or other moisture-resistant linings where required.

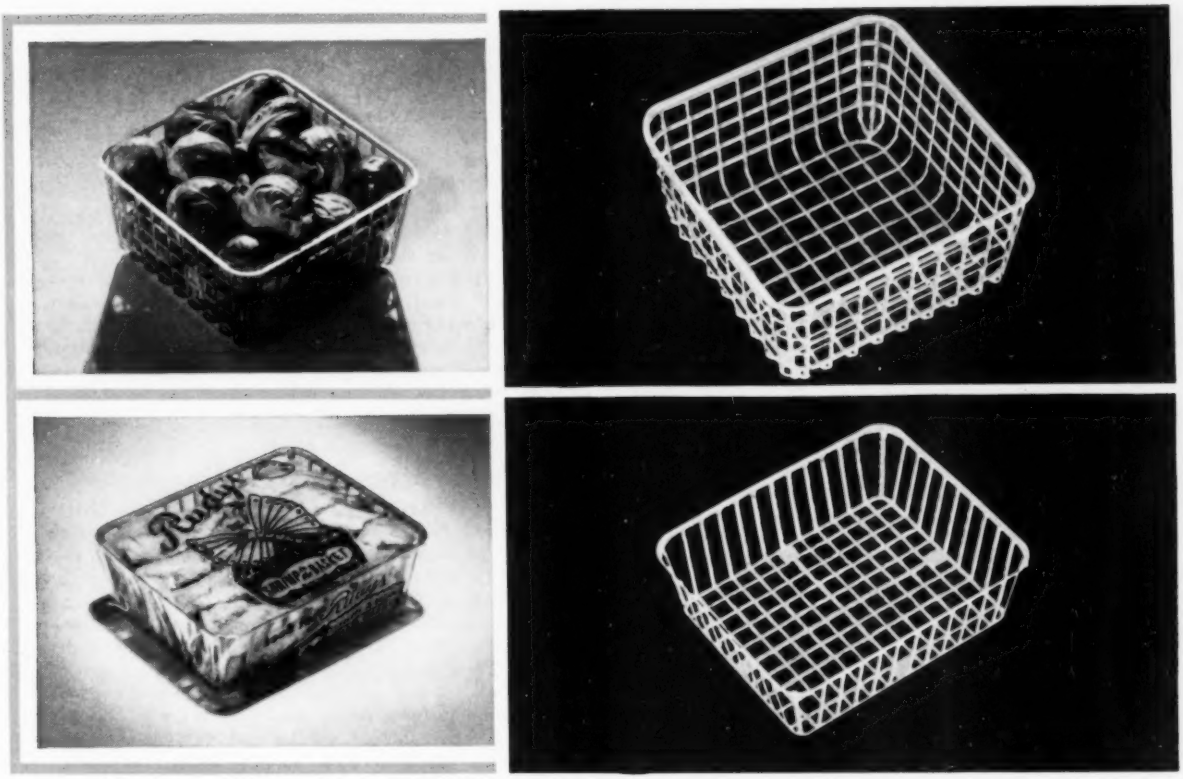
A NEW WATER-BASE FLEXOGRAPHIC INK

that is said not to run in water after printing has been developed by Bensing Bros. & Deeney, 3301 Hunting Park Ave., Philadelphia 29, Pa. Called "Hydrotex," the new ink is designed for printing tissue, bond, sulphite, machine-finish, glassine, kraft, boxboard and other papers. It is said to print with a smooth, flat finish and to have good resistance to rubbing or scuffing. The ink, developed to meet the need for an economical, water-fast ink, is a fast-drying, tackfree, 100% pigment ink that retains a low viscosity at high color concentrations, according to the supplier, and combines extremely good hiding power and lightfastness with trouble-free press properties. It may be

DOW

THERE'S NEW MERCHANDISING EXCITEMENT IN

The Styron Plastic Basket



Gay color and open latticework design create fresh sales appeal for berries, small vegetables, frozen sea foods

The Dow Chemical Company
Plastics Sales, PL 454U
Midland, Michigan

Please send me your catalog,
"Rigid Containers Made of Styron."

Name_____

Company_____

Street_____

City_____ Zone____ State_____

Product to be packaged_____

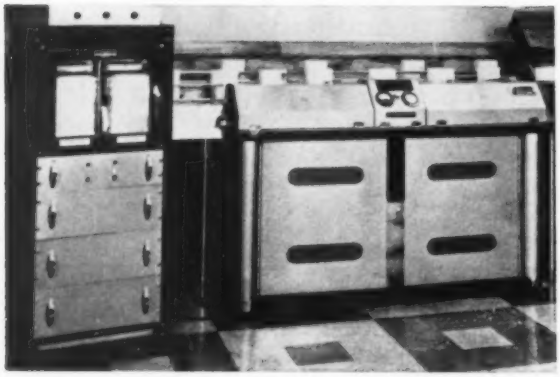
At last . . . brand new "dress" and brand new sales appeal for berries, small vegetables and frozen foods! The colorful basket made of Styron® opens up unlimited merchandising opportunities in fields where packaging has never before contributed eye-appeal for increased impulse sales.

Whether you pack berries or Brussels sprouts, you'll enjoy a big sales advantage at the market if you give them the added attraction of this newest Styron packaging. Open latticework design puts the contents on display . . . simplifies selection . . . adds to the eye-appeal. Transparent over-wrap puts frozen sea foods on display, too!

You pay no premium for this packaging excitement. The basket can be custom-designed for your product and mass-produced in the color of your choice. Let Dow put you in touch with molders who can help you create your own Styron plastic basket, or who have these baskets ready for your next "pack."
THE DOW CHEMICAL COMPANY, Midland, Michigan, Plastics Sales, PL 454U-1.

you can depend on DOW PLASTICS

DOW



SELECTROL Weighs, Classifies, Sorts, and Records Weights of Your Entire Production Output

SELECTROL sorts your high-speed production into three classifications: over-weight, under-weight, and correct weight. Immediate savings are effected—correct weights need no further handling. Over-weights and under-weights are diverted for correction. Simultaneously, the Range and Average Recorder charts each unit as it flows over the SELECTROL. It tabulates the average weight in groups of consecutive packages, and the range of weights within the same groups. This statistical information provides a sound basis for accurate adjustment of filling or processing operation. In addition, a running count is made of all packages in each weight classification. Send coupon for complete details.

Sales and Service from Coast to Coast

Exact Weight Scales

Better quality control

Better cost control

THE EXACT WEIGHT SCALE COMPANY

914 W. Fifth Avenue, Columbus 8, Ohio
2920 Bloor St. W., Toronto 18, Canada

Please send Selectrol and Recorder bulletin

Name .....

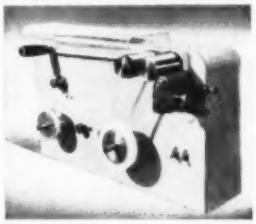
Address .....

City ..... Zone ..... State .....

Equipment and materials

thinned with ordinary water on the press and water may be used to wash plates, rollers and fountains.

PRINTING OF PLASTIC AND GUMMED TAPES
up to 3 in. wide, in all types, is possible with a new machine developed by the Printing Machinery Engineering Co., 1111 Eleventh Ave., Oakland 6, Calif. Single-color printing is done from rubber plates of 0.125-in. thickness on a cylinder of 6¾ in. circumference. Constant tension rewind can be controlled while the machine is in operation. Side register is controlled on both mill roll and rewind shafts. Adequate space is provided for jumbo rolls as well as standard 72-yd. rolls. Normal operating speed is about 125 lineal feet a minute. A separately controlled 50 C.F.M. blower furnishes unsaturated air for drying and the air stream is deflected onto the tape by a plastic cover. Approximate over-all size is 22 by 15 by 10 ft. and approximate weight is 75 lbs. A 1-in.-diameter rewind check can be obtained as an optional attachment.

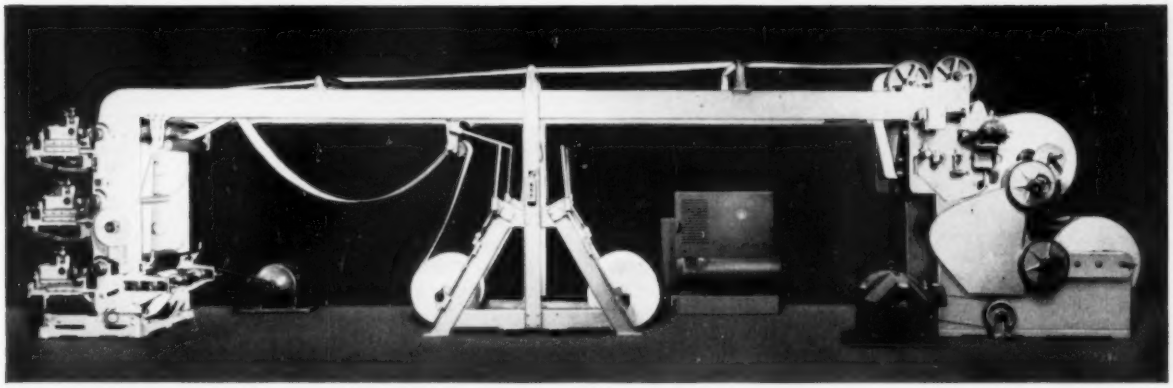


TWO NEW FILLING MACHINES
have been announced by the MRM Co., Inc., 191 Berry St., Brooklyn 11, N. Y. One is designed to fill liquids accurately in all sizes and shapes of containers from ⅛ oz. up to 16 oz. Recommended for such products as perfumes, medicines and all liquids sold in small amounts, the unit is suitable for vacuum, gravity or volumetric filling at speeds up to 150 containers per minute. The other, designed for extremely sensitive or foamy products, is a flexible unit adjustable to containers varying in size from 8 oz. to 5 gal. Production capacities with six filling spouts are as follows: 5 gal., five to seven per minute; 1 gal., eight to 12 per minute; ½ gal., up to 18 per minute; 1 qt., 24 per minute. The filler can be supplied either in a manual or fully automatic conveyor feed arrangement.

TEXTURED DECORATIVE MATERIAL
consisting of a vinyl and Fiberglas yarn laminate called "Lamiglas," announced by Facile Corp., Paterson, N. J., is said to offer potentialities in packaging, display and other fields. Vinyl film and Owens-Corning Fiberglas are laminated against a backing material of tag stock, parchment, stretch paper or plastic film—depending on the proposed end use. Nine colors are available.

A NON-SKID PRINTING INK
that minimizes sliding, shifting and extra handling of paper bags, sacks, corrugated cartons and other packages has been developed by the General Printing Ink Div. of Sun Chemical Corp., Long Island City, N. Y. Called Hydry Non-Skid ink, the product is a special formulation, available in any range of colors, that is rub resistant, yet provides a built-in "skid resistance" for industrial packages.

IRRADIATED POLYETHYLENE PACKAGING FILM
is said to have increased form stability at 300 to 350 deg. F. and resistance to cracking under stress or in contact with solvents or other active chemicals. The new material, now available in narrow film form in experimental quantities from the



Model shown: "APS" #336

Print better...print faster with a

MANHASSET "APS" FLEXOGRAPHIC PRESS

New 1954 models engineered to meet today's demands for precision quality and volume production

Write — wire — phone

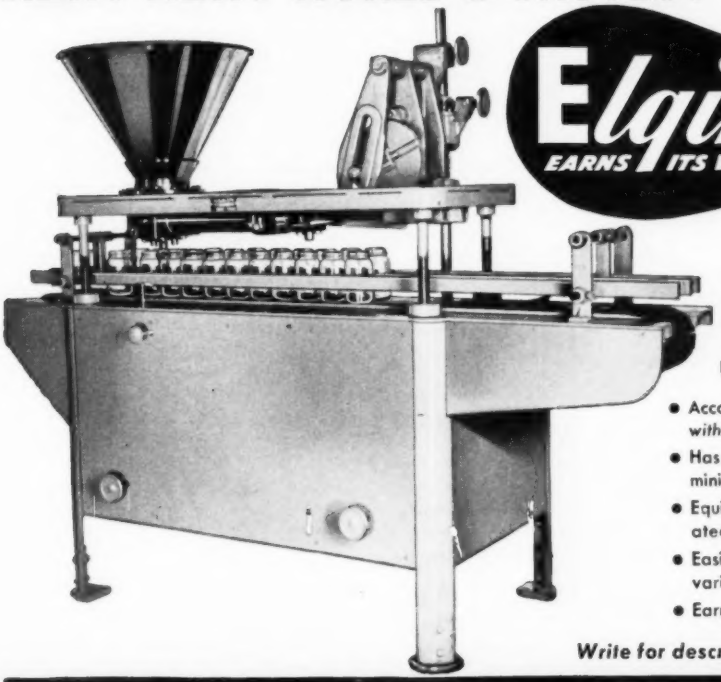
MANHASSET

MACHINE CO.

Mineola, New York

Here's the multicolor flexographic press that runs at speeds up to 600-fpm and delivers clean, in-register impressions on every kind of paper... from lightest tissue to 45-pt. board. This MANHASSET PRESS has interchangeable non-splash fountains and special plate cylinder bearings that permit unusually rapid changeover from one job to the next. It is precision-made with heavy-duty solid frames... simplified operating and running register controls ... frictionless clutches... automatic edge control... automatic constant tension controls... and includes many other new, up-to-the-minute design features. The MANHASSET FLEXOGRAPHIC PRESS is available in various sizes to print up to 6 colors... handle mill rolls from 18" to 72" wide and up to 60" diameter. It is furnished with center-core rewinder and gear-driven rotary shear slitter; also, if required, sheeter and stacker, perforator, etc.

NEW! NEW! WORLD'S FASTEST DUO-VALVE FILLER



Elgin EARNS ITS WAY **"SPEED-KING"**

for Liquid and Semi-Liquid Products

CHECK THESE UNIQUE ELGIN "SPEED-KING" FEATURES

- Accommodates all sizes of jars or tin from 1 oz. to 1 gal., *without change parts.*
- Has smooth variable speed continuous conveyor, giving minimum indexing motion.
- Equipped with Fine-Fill adjustment, which may be operated while machine is in action.
- Easily cleaned and quickly adjusted to handle a wide variety of products.
- Earns its way in labor and overhead savings.

Write for descriptive literature, address Dept. MA

ELGIN MANUFACTURING COMPANY • 200 BROOK STREET • ELGIN, ILLINOIS

How to package a percolator in two easy lessons!

The Enterprise Aluminum Company makes these gleaming electric percolators. Problem was to *keep* the percolators bright and shiny until they reached the customer. Enterprise learned this first: ordinary kraft paper wouldn't do. Too many scratches that resulted in too many returns. Then they learned this: *two* sheets of Crystal Tissue cut returns *way* down. Soft, strong *inner* tissue sheet reduced scratching and "breakthrough". Tough *outer* sheet prevented "burning" against carton walls. Result? Fewer returns. Whatever your product, there's a lesson here for you. Crystal Tissues could be the answer to *your* packaging problems. Call your Crystal distributor or write Dept. M for his name and address.

Crystal

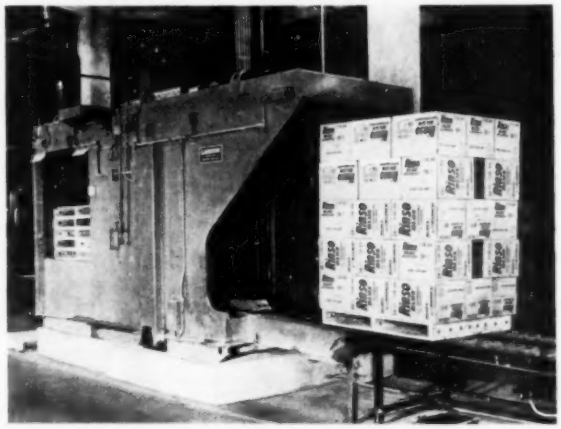
THE CRYSTAL TISSUE COMPANY, Middletown, Ohio

Equipment and materials

General Electric Co., Pittsfield, Mass., is designated as "Irrathene." The new material's unique properties result from bombardment of polyethylene with high-energy cathode rays from million-volt electron generators. Cross-linking or vulcanization of the polymer occurs during irradiation. Irradiated polyethylene is expected to be a factor in the development of new, heat-resistant and sterilizable transparent containers for food, drug and pharmaceutical products.

A NEW SIDE PALLET STORAGE MAGAZINE

that increases the flexibility of automatic pallet loaders has been announced by the Lamson Corp., Syracuse, N. Y. The side pallet magazine on this loader handles pallets up to 48 in. wide and makes possible the placing of two-way pallets in the



magazine with their pick-up opening facing the side. Previously, pallet openings had to face the rear of the machine in order to be stacked in the rear pallet magazine.

Availability of rear, left or right-side pallet-storage magazines enables systems to be engineered around the physical facilities of a plant. Designed to load pallets automatically in mass production, cartons or cases are conveyed from the sealing machines to the top of the pallet loader, where electro-mechanical devices position them and stack them onto the pallets.

The machine is designed to handle various sizes of cartons and automatically changes pallet patterns in a matter of seconds for the appropriate carton, according to the supplier. The magazine automatically supplies pallets as preceding loads are completed and ejected. Cartons can be stacked at a rate of 15,000 cases per 8-hr. shift, the company reports, palletizing the output of from one to three filling lines.

QUICK-DRYING VINYL INKS

for gravure printing on vinyl film and sheet have been announced by the Acheson Dispersed Figments Co., a unit of Acheson Industries, Inc., 2250 E. Ontario St., Philadelphia 34, Pa. The newly introduced line is available in black, white and 10 other colors. Claimed for the new inks are faster and more complete drying characteristics. They are also said to have greater brilliance than has generally been obtainable.

CORRECTION

The address of Paxton Machines, Inc., manufacturer of a plastic tab closure for film bags called "Kwik Loks," is Riverside, Calif., not Riverdale as stated in an item in this department in the February issue.

KEEP UP WITH THE NEW TREND IN SHIPPING AND STORAGE:

Palletize with SWIFT'S PALLETITE

● Palletizing or unit loading of bag or case shipments is your best insurance these days for safe, sound arrival of your merchandise. It speeds up the loading and unloading of goods . . . reduces handling and demurrage costs.

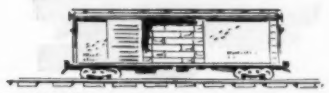
PALLETITE, Swift's new non-skid moisture resistant adhesive, is the star performer on this insurance team. It is a ready to use adhesive that bonds quickly. It's economical too . . . only one gallon to palletize a full carload. Easily applied by brush or glue rollers.

It's fully tested too . . . many thousands of pounds were used in 1953 to help shippers realize the maximum benefits from mechanical freight handling equipment, conserve warehouse space and reduce freight damage.

Several outstanding features of this new Swift Adhesive are illustrated at left . . . and remember, Swift has a versatile team of palletizing adhesives with special setting characteristics — one for any combination of requirements.

Write for the new information bulletin of PALLETITE today! See how this versatile product can help you save *real* money in your shipping department.

REALLY PALLETIZES—Resists horizontal shifting, but pops clean on vertical lift.



ECONOMICAL—Good mileage, an average of one gallon per carload.

PERFORMANCE—Ready to use, gives quick bond with machine or brush . . . easy to clean up.

ONE DEMONSTRATION IS BETTER THAN A THOUSAND CLAIMS

Swift ADHESIVES

Another of Swift's Products for Industry

USE THIS COUPON FOR FURTHER INFORMATION

Swift & Company
Adhesive Products Dept.
4115 Packers Avenue
Chicago 9, Illinois

Please send us your booklet on PALLETITE together with prices and shipping information.

*Firm Name*_____

*ADDRESS*_____

*CITY*_____ *ZONE*____ *STATE*_____

*NAME*_____

Plants and people

The purchase by the **Package Machinery Co.**, East Longmeadow, Mass., of the **Transparent Wrap Machine Corp.** of Hasbrouck Heights, N. J., manufacturers of machinery for making and filling cellophane-type bags and packages, was announced at the recent Packaging Show. The acquiring of this company, which maintains sales and service facilities in all principal cities of this country and in several foreign countries, opens an entirely new field of business for Package Machinery Co. Among the executive and technical personnel of the Transparent Wrap Machine Corp. who will join Package Machinery are **Walter Zwoyer,** president; **Albert Gausman,** plant superintendent; **Henry Knochel,** sales manager; and **William Thompson,** chief engineer. The acquisition of the Transparent Wrap Machine Corp. marks the fourth company which has been bought outright by Package Machinery in the past few years. The others were the Frank D. Palmer Co., the Rite-Way Products Co. and the National Bread Wrapping Machine Co.

American Can Co., New York, has started construction on a new plant at Denver, Colo., which will produce cans to supply brewers and food processors in the Rocky Mountain area.

American Cyanamid Co. and **New Jersey Zinc Co.**, New York, have entered into a contract under which Zinc will purchase American Cyanamid's Gloucester City, N. J., titanium dioxide plant. The plant will be turned over to Zinc after American Cyanamid's new and larger titanium dioxide plant at Savannah, Ga., has been completed in 1955.

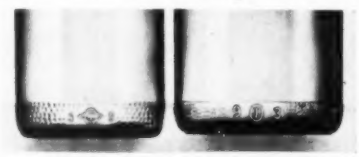
T. W. Sharp has been appointed manager of the newly created Flexible Packaging Materials Div., **Bakelite Co., Div. of Union Carbide & Carbon Corp.**, New York. Mr. Sharp's division will assume responsibility for the sales and technical service of all Bakelite polyethylene sold for extrusion of unsupported thin film and all vinyl cast film and vinyl-coated paper for flexible-packaging applications in a wide variety of fields.

Mr. Sharp

The Black-Clawson Co., Dilts Machine Works Div., Fulton, N. Y., has acquired the rights to the Pacemaker line of printing presses and associated equipment. In addition to the Pacemaker offset press, Dilts will manufacture the Pacemaker Model 800 two-drum winder and the Pacemaker Model 3000 automatic collapsible register reel. Users of Pacemaker equipment may contact the Dilts Div. for service and spare parts on their present equipment.

The patented Warren air doctor developed by the **S. D. Warren Co.** is now being sold through Black-Clawson's Dilts Machine Works Div., through a recent agreement between the two companies. The Dilts Div. will include the Warren air doctor as an integral part of its complete coating installations.

Owens-Illinois Glass Co., Toledo, Ohio, has embarked on a new marketing program aimed to improve sales by promoting the family relationship of its divisions and subsidiaries, and the variety of products they make. Chief objective is to establish clearly in the minds of customers what Owens-Illinois is, what it produces and what it supplies. This is being accomplished through the adoption of a common signature, already in use in all its advertising, which clearly establishes the parental role of Owens-Illinois and identifies all its products. The signature consists of a new trademark—a gold "O" with an equally bold "I" in the center—and the use of "Owens-Illinois" instead of the official name, Owens-Illinois Glass Co. The program is being carried out by the Marketing Administration Dept., headed by **Smith L. Rairdon,** vice president and director of marketing.



New Owens-Illinois Trademark

Lloyd C. Bender has been named national field supervisor for **Armour Laboratories,** Chicago.

Albert F. Delaney has been appointed a district sales representative for **Atlas Plywood Corp.**, Boston, Mass. He will cover Connecticut and western Massachusetts for the company.

J. F. Auer, founder of **J. F. Auer Paper & Board Corp.** and **Camatone, Inc.**, Mamaroneck, N. Y., is celebrating his 50th anniversary in business.

Ball Bros. Co., Muncie, Ind., has completed the improvement and decentralization program directed by **Duncan C. Menzies,** who is relinquishing his duties as Ball's chief operating executive. Mr. Menzies will serve as vice chairman of the company's executive committee and as a board member.

Austin Industries has moved to larger quarters at 133 E. Main St., Marlboro, Mass.

The Borden Co., New York, has promoted **Eugene J. Sullivan** to general manager of the Resin & Chemical Dept. Mr. Sullivan will be in charge of the sales, production and development of industrial and packaging adhesives, foundry products, chemicals and packaged items.

Mr. Sullivan

William R. Moffitt has been made vice president and technical director of Borden's Chemical Div. Mr. Moffitt was formerly manager of the division's West Coast operations.

The Battle Creek Bread Wrapping Machine Co., Battle Creek, Mich., has appointed **Carl J. West, Jr.,** as sales representative for the Midwest, with headquarters in Chicago.

The Plastics Div., **Celanese Corp. of America,** New York, has made the following appointments in its engineering department: **H. M. Balter,** manager of development engineering; **J. N. Birmingham,** manager of plant engineering; **H. Weber,** manager of engineering services; and **W. R. Turner,** senior staff engineer.

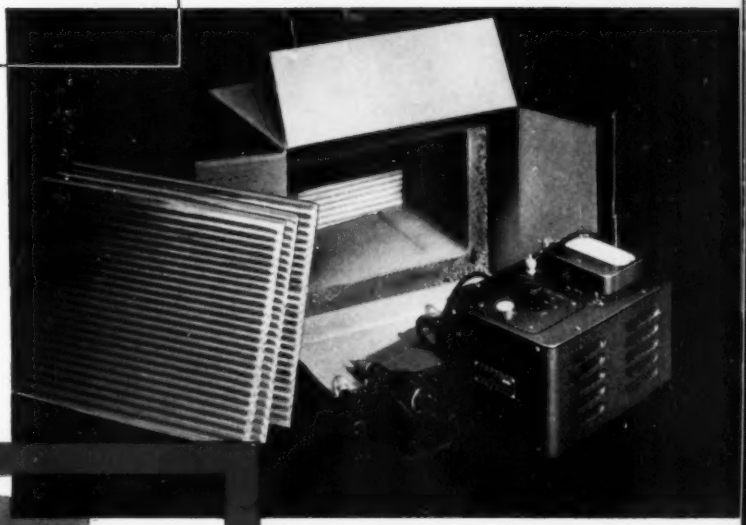
Donald P. Clarke has been named manager of plastic sales for the **Canadian Chemical Co., Ltd.**, and **Hugh Cairns** has joined the company as a plastic representative. Both will locate in Toronto.

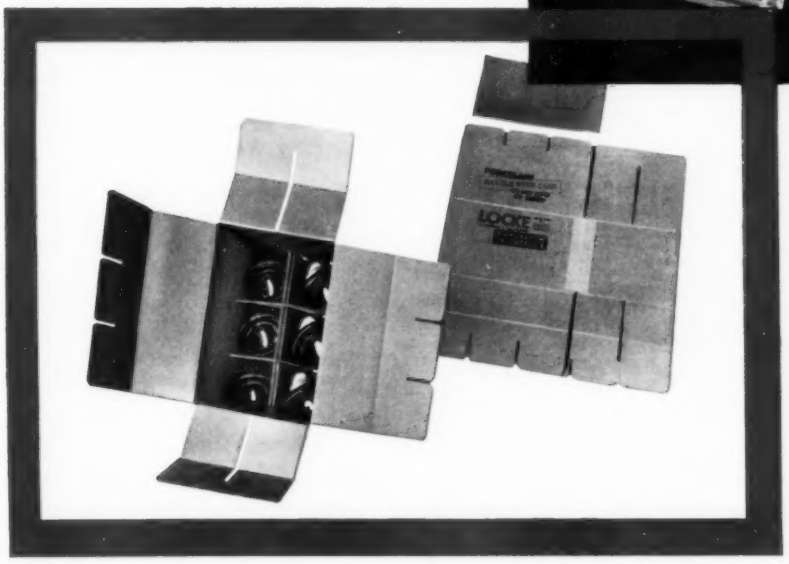
Donald H. Brewer and **Leo H. Schoenhofen** have been made senior vice presidents of **Container Corp. of America,** Chicago. Mr. Brewer will be in charge of all of the company's shipping-container plants and containerboard mills east of the Rockies, including those of **O. B. Andrews Co.**, a subsidiary. In the same area, Mr. Schoenhofen will be in charge of all folding-carton plants and boxboard mills of Container Corp. and O. B. Andrews, in addition to the paper stock plants of another subsidiary, **Pioneer Paper Stock Co.**

Ralph E. White and **David R. Riggs** have been appointed divisional general managers of Container Corp.'s shipping-container plants in Indiana, Ohio and the Eastern States. Mr. White will be in

CUT
sales
resistance

SLICE
product
damage





SLASH
packing
time

Write for free booklet,
"How To Ship More Economically
in Corrugated Boxes."
Hinde & Dauch, Sandusky 4, Ohio

HINDE & DAUCH

Authority on Packaging

40 SALES OFFICES • 17 MILLS AND FACTORIES

No wonder LUSTEROID vials and tubes sell by the million!

These smart plastic containers are made for merchandising as well as protection. They've got color galore—clear or opaque. They're printable so you save on labeling. They are so much lighter you save on shipping, handling and packing. And they're strong, durable, unbreakable.

Get the story on LUSTEROID and see for yourself. Sizes from ¼" to 1½" in diameter, lengths up to 6".

Write for samples and prices today.

LUSTEROID Container Company, Inc.

12 West Parker Avenue, Maplewood, N.J.

Plants and people

charge of container plants at Cincinnati and Cleveland, in addition to the plant at Anderson, Ind. Mr. Riggs will be in charge of the container plants at Baltimore, Boston and Philadelphia and the containerboard mill at Wilmington.

Frederick S. Crysler has been named division manager of the company's Eastern folding-carton and boxboard properties at Boston, Philadelphia, Oaks, Pa., and Greensboro, N. C.

John D. Spence, vice president, has resigned voluntarily from Container Corp.

Container has acquired 33 acres of land in Santa Clara, Calif., for the expansion of production facilities in the San Francisco Bay area. The company plans to have the plant in operation by late July this year.

Milprint, Inc., Milwaukee, Wis., has appointed **Arthur Konig, Jr.,** as manager of the Packaging Materials Service Div. **Harry Jones** has been made district sales manager in Milprint's Chicago office and **Arthur Meyers** has been named assistant district sales manager.

Mr. Konig (left) and Mr. Jones

Dr. Donald W. Davis has been made technical director of research and product development at Milprint.

Robert Boylan and **Donald R. Miller** have been appointed to Milprint's national sales staff. Mr. Boylan will locate in the Chicago sales office, Mr. Miller in another Midwestern city.

Albert W. Luhrs, associated with **Container Laboratories, Inc.,** Chicago, for over 30 years, has resigned as a director of the firm. His post will be filled by **Frank Block.**

Continental Can Co., New York, has appointed **Sog R. Panter, Jr.,** as sales manager of the Southeastern district of Continental's Paper Container Div. **John E. E. Griffin** has been made sales manager of Continental's Overseas Div.

Two plant moves are being contemplated by the Shellmar-Betner Flexible Packaging Div. of Continental. Equipment at the Zanesville plant will be moved to a newly acquired building in Newark, Ohio, to facilitate the expansion of the division's polyethylene program. Plans also call for the closing of Shellmar-Betner's Paris plant and consolidation of present operations with the Beaumont, Tex., plant. The expansion of Continental's Shellmar-Betner plant facilities in South Gate, Calif., has been completed, permitting consolidation of the Los Angeles and South Gate plants under one roof. The Shellmar-Betner southeastern district sales office has been moved from San Antonio to Dallas, Tex., with new headquarters at 2501 W. Mockingbird Lane.

Continental's district sales office in the Pacific Northwest has been moved from Seattle to Portland, with headquarters in the Yeon Bldg.

Chase Bag Co., Chicago, founded in 1847, will celebrate its 107th anniversary with an advertising campaign featuring the "C" man, the Chase representative. Important historical events in industry, agriculture and commerce will be depicted. Chase representatives will offer a stepped-up service program to supply packaging users with technical advice in all phases of packaging as part of the program.

Chase has appointed **Donald William Douglas** as a sales representative in Stockton, Calif., and in Nevada.

David J. McKay, Jr., and **Hy Velkoff** have been elected to the board of **Central States Paper & Bag Co.,** St. Louis, Mo.

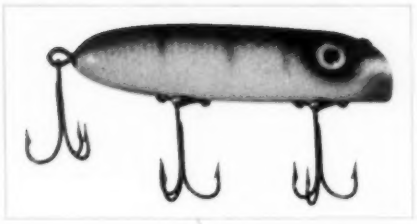
Eugene Jacobson has been made president, and **Benjamin Charnas** vice president of the **Facile Corp.,** Paterson, N. J., manufacturer of laminated products, and its subsidiaries, **Freydberg Bros. Strauss, Inc.,** Stamford, Conn., and the **Artistic Mfg. Co.,** Paterson, N. J. **Jack Gruber,** former president of the corporation, has retired.

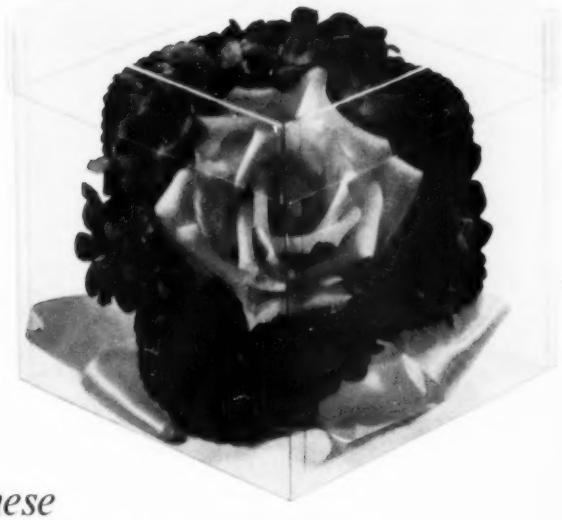
Robert F. Schnier has been appointed executive vice president of the **I. F. Schnier Co., Inc.,** San Francisco. The son of the late I. F. Schnier, founder of the company, Robert Schnier first became associated with the business in 1941 as a member of the sales staff. He will headquarter in the main offices in San Francisco.

Mr. Schnier

Gardner Board & Carton Co., Middletown, Ohio, has promoted **Paul Wilch, Jr.,** to the position of supervisor, carton sales service.

Gardner has formed a subsidiary for the purchase of **Letellier-Phillips, Inc.,**





Kodapak Sheet

"Kodapak" is a trade-mark.

These and countless other items . . . look real . . . sell

Whatever the merchandise—whether it's to be sold to men, women, or children—it will look better, move faster—*packaged in Kodapak Sheet.*

Because Kodapak Sheet is crystal-clear—free from bubbles and surface defects—merchandise shows up in true texture and color.

Because customers see and buy without handling, merchandise stays fresh, saleable—longer.

Because Kodapak Sheet is tough and durable, packages stand up better, last longer.

And, because it's uniform, easy to work, manufacturers use it to deliver better values. For names of specializing firms, call our representative or write:

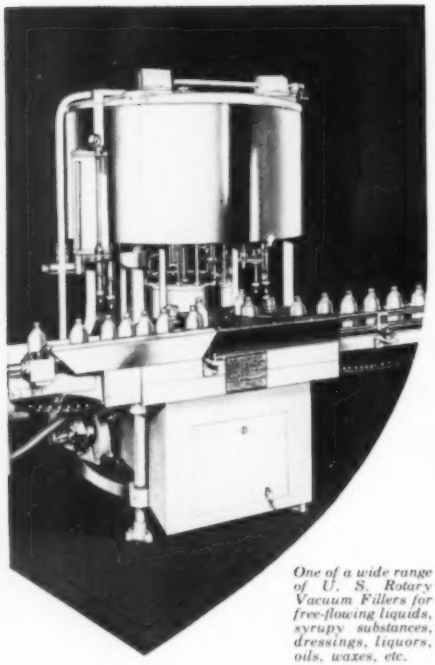
Cellulose Products Division
Eastman Kodak Company, Rochester 4, N.Y.

NEW . . . ALL NEW!

Write for new edition of "Properties of Kodapak Sheet" just printed. It answers all questions about the product. Four pages of facts about Kodak cellulosics.

MAKES GOOD MERCHANDISE SELL BETTER

Sales offices: *New York, Chicago, Dallas.* Sales representatives: *Cleveland, Philadelphia, Providence.* Distributors: *San Francisco, Los Angeles, Portland, Seattle (Wilson & Geo. Meyer & Co.); Toronto, Montreal (Paper Sales, Ltd.).*



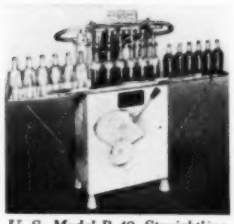
One of a wide range of U. S. Rotary Vacuum Fillers for free-flowing liquids, syrupy substances, dressings, liquors, oils, waxes, etc.

Leave Your Liquid Filling Problem to a Specialist...

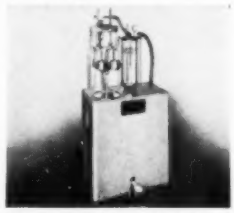
Your production line requirements may be a problem to you but they are a-b-c to our staff of liquid filling specialists.

With a wide range of basic machine models, U. S. engineers custom-build each automatic filler to the specific needs of the user. Result, your plant is custom-equipped by specialists . . . at a cost competitive with standard equipment. Many years of day-in and day-out filling efficiency thereafter, justifies U. S. specialized engineering.

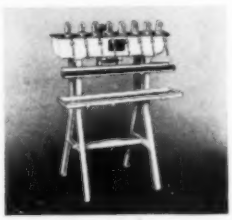
For quotations, state nature of product, containers used and production line capacity. "Rotary Filler Bulletin" describing basic mechanisms mailed upon request.



U. S. Model B-49, Straightline Vacuum Filler. Adjustable for all types of containers.



U. S. Model B-2 Semi-Automatic Vacuum Filler. Fast, portable. Filling is continuous.



U. S. Siphon Filler. Improved model. Stainless steel tubes, glass lined tank. Dependable.

U. S. BOTTLERS MACHINERY COMPANY

4017 North Rockwell Street — Chicago 18, Illinois

offices: Boston • New York • Philadelphia • Houston • Dallas • Denver • San Francisco Los Angeles • Seattle • Portland • Phoenix • New Orleans • Tampa • Atlanta Montreal • Toronto • Vancouver • Winnipeg • EXPORT OFFICE: Toledo, Ohio

A COMPLETE PLASTIC PACKAGING SERVICE

Everything UNDER ONE ROOF!

PLANNING
DESIGNING
TOOL MAKING
MOLD MAKING
INJECTION MOLDING
ASSEMBLING
IMPRINTING

Let CLAREMOULD design-engineers develop *the* plastic package which will put your product far ahead in sales and profits. From start to finish, you can depend on CLAREMOULD for expert workmanship, economy, and prompt service.

Inquiries Invited.

Claremould Est. 1936
PLASTICS CO.
200 WRIGHT STREET • NEWARK 5, N. J.

10 MILLION packs in 18 months

were packaged on the Auto-Pak by Private Brands Inc. of Clifton, N. J. Twelve different, various sized items are included in this total . . . demonstrating the versatility and efficiency of the low cost Auto-Pak.

If you want to package your products for appearance, for protection, for ease in handling, the Auto-Pak is your best bet. Write, wire or phone for details today.

PAK-RAPID INC.

530 N. 21st St. Philadelphia 30, Pa. LOcust 7-4840

Representatives

New York • Boston • Cleveland • Cincinnati
St. Louis • Los Angeles

Plants and people

Dayton, Ohio, a concern which supplies graded waste paper to paper manufacturers. The Letellier-Phillips name will be continued and **Leo Sajovitz** and **Maurice Sajovitz** will continue in the management of the new company, whose officers include: **E. T. Gardner, Jr.**, president; **Colin Gardner, III**, vice president; **Irvin G. Hurr**, secretary-treasurer; and **Harry Hadley**, assistant to the president.

Philip H. Glatfelter, III, has been elected president of the **P. H. Glatfelter Co.**, Spring Grove, Pa., manufacturer of quality papers. His father, P. H. Glatfelter, whom he succeeds, is now chairman of the board.

The Chemical Div., **Goodyear Tire & Rubber Co.**, Akron, Ohio, has appointed **R. E. Workman** assistant to the general manager; **C. O. McNeer** to general sales manager; and **M. J. Rhoad** to assistant to the general sales manager.

Mr. Workman (left) and Mr. McNeer

Mr. Workman will assist in the coordination of the research, development, production and sales phases of the chemical operation. Mr. McNeer will be in charge of all phases of selling chemical materials, principally to the paint, rubber, plastics, textile and paper industries.

Federal Tin Co., Baltimore, Md., wholly owned subsidiary of **P. Lorillard Co.** and manufacturer of lithographed and plain metal packages, has elected **George W. Davidson** as vice president.

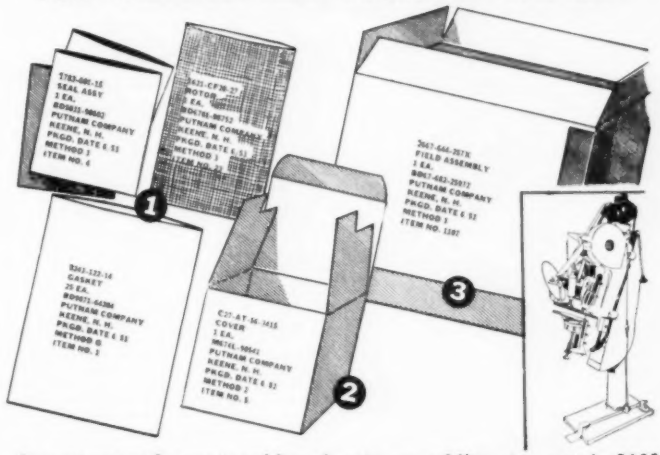
The Forbes Lithograph Mfg. Co., Boston, Mass., has appointed **Edward W. Hoy** as manager of its Cleveland branch office to succeed **Paul F. Paige**, who is retiring from this managership, although he will continue his association with the company in an advisory capacity as well as retain his vice presidency.

Henry J. Howlett has joined **Robert Gair Co., Inc.**, New York, manufacturer of corrugated containers, paperboard and folding cartons, as a special representative for the container division. Mr. Howlett was formerly president of Container Laboratories.

Arthur J. Brewster has been appointed manager of Gair's Angelus Corrugated Box Div. at Los Angeles. Succeeding Mr. Brewster as division manager at Gair's

MARKEM SOLVED THIS MARKING PROBLEM

IDENTIFICATION MARKING FOR CONTRACT AND OVERSEAS PACKING



In contract and export packing of parts, assemblies, etc., certain JAN specifications call for three packaging stages: (1) enclosure in scrimback or polyethylene lined *heat sealing* envelope, (2) intermediate packing in a folding box, (3) final packing in corrugated carton. Each of these three types of containers must be marked for instant and *permanent* identification. Many manufacturers, dissatisfied with conventional marking with crayon, stencil, labeling or other form of hand stamping, have not only found great savings in time and money, but also obtained more legible, longer lasting identification using a Markem Method. *One* Markem machine (with appropriate Markem type and Markem ink) prints desired information on *all three* containers. The vapor barrier of the envelope is not broken. Desired information is changed rapidly. By printing quantities of containers as and when needed, inventory problems are minimized. In this way, the Markem Method insures *positive identification* when the items reach their destination.

MARKEM MARKS THEM ALL

CAN MARKEM HELP YOU? Identification printing for contract and overseas packaging is but an example of how Markem solves industry's marking problems. Markem has been providing industry with production techniques and equipment to identify, decorate or designate its products, parts and packages since 1911. Markem also provides technically trained men who are available in your area to assure *continued* satisfaction with Markem methods and equipment.

When *you* have a marking problem, tell us about it and send a sample of the item to be marked. Perhaps a complete Markem Method has already been developed to solve your problem. If not, Markem will work out a practical solution.

Markem Machine Company, Keene 1, N. H., U.S.A.

MARKEM ...TO MAKE YOUR MARK

BLISTER-PAK

revolutionizes merchandising of

FARR manicure implements

For the first time, Merit's Blister-Pak places manicure implements on a serve-yourself basis. Instead of hiding behind glass barriers, they come out as impulse sales items in drug chains, variety stores and supermarkets. *Blister-Paks are transparent plastic blisters vacuum formed to shape and assembled on die cut printed cards with pressure sensitive adhesive affixed. *No stapling or gluing. *Dust-proof, *moisture-proof, *pilfer-proof.

Write for free samples and case histories of successful Merit Blister-Pak displays and packages.

Displays MERIT Packaging

MERIT DISPLAYS

McLEAN BLVD. at 26 ST., PATERSON, N. J.
ARmory 4-8630

Plants and people

Teterboro (N. J.) container division is **R. Thomas Hanger. William J. Hamilton** has been made manager of brewery sales, Folding Cartons Div.

Craig Moore has been made sales director of the **Commercial Products Div.** of **Dixie Cup Co.**, Easton, Pa.

Mr. Schmitt

Theodore W. Schmitt has been elected executive vice president of **Peerless Tube Co.**, Bloomfield, N. J. Mr. Schmitt joined Peerless 21 years ago as a salesman. He became sales manager and vice president of the company in 1948 and a director five years ago. He is also a director of the Collapsible Tube Mfrs. Assn.

John D. Buckingham and **William E. Wingard** have organized **Buckingham Associates,** 721 Roger Ave., Kenilworth, Ill., to specialize in creative packaging and design development. The new firm will be the Chicago representative for: **The House of Harley, Inc.,** designers and manufacturers; **Williams Bros.,** set-up boxes; **Formold Plastics,** closures and molded parts; **Duveen Soap Co.,** toilet soap; **A. J. Anderson,** labels; **Evans-Crowder,** cosmetic dispensers and atomizers; and **Acadia Powder Puff Co.**

Albert E. Heekin, Jr., grandson of the founder of the **Heekin Can Co.,** Cincinnati, Ohio, has been elected president of the company, succeeding **Daniel M. Heekin,** who has retired as president. Other officers elected are: **James J. Heekin,** chairman of the board, emeritus; **Albert E. Heekin,** chairman of the board; **Clarence A. Rolfes,** vice president and sales manager; **James J. Flynn,** secretary and treasurer; **Charles L. Heekin,** vice president, packers cans sales; **Donald J. Heekin,** vice president, defense sales.

Hinde & Dauch Paper Co., Sandusky, Ohio, manufacturer of corrugated paper shipping boxes, has named **John J. Holzhauser** office manager at the Hinde & Dauch Detroit factory. **Willard J. Clark** has been made office manager at the company's factory at Kansas City, Kan. Each man becomes a member of a three-man managerial team reporting directly to the executive offices in Sandusky, working with a district sales manager and plant production manager.

Hobbs Mfg. Co., Worcester, Mass., manufacturer of converting machinery, has opened a branch office at 132 Nassau St., New York. Sales and services in the new office will be under the direction of **George B. Clay.**

J. R. Keeny Co., Louisville, Ky., manufacturer of packaging machinery, has sold all rights to manufacture and distribute Salser equipment to the **Hope Machine Co.,** Philadelphia. **John R. Keeny, Jr.,** has been appointed as sales manager for the newly created Pharmaceutical Div. that will handle the sales of the equipment. Offices will remain in Louisville.

Mr. Rudd

Richardson Scale Co., Clifton, N. J., manufacturer of weighing and materials-handling equipment, has appointed **John K. Rudd** as chief applications engineer, succeeding **Enrico Klein,** who has been made Richardson's new European representative. Mr. Rudd will continue to supervise research activities for Richardson Scale.

The Hoerner Corp., Keokuk, Ia., has announced a corporate change affecting all nine of the company's plants. The changes in names are as follows: **ABC Corrugated Box Co.** to **Hoerner Boxes of Minneapolis, Inc.; Des Moines Container Co.** to **Hoerner Boxes of Des Moines, Inc.; Iowa Fiber Box Co.** to **Hoerner Boxes of Keokuk, Inc.; South West Box Co.** to **Hoerner Boxes of Sand Springs, Inc.; Arkansas Box Co.** to **Hoerner Boxes of Fort Smith, Inc.; Southwest Corrugated Box Co.** to **Hoerner Boxes of Fort Worth, Inc.; Little Rock Corrugated Box Co.** to **Hoerner Boxes of Little Rock, Inc.; Ottumwa Shipping Containers** to **Hoerner Boxes of Keokuk, Inc.,** Ottumwa plant.

The Dobeckmun Co., Cleveland, Ohio, converter and printer of packaging materials, has promoted **M. A. Gibbons** to district manager, Los Angeles.

Mr. Gibbons

Fred C. Marsh has been appointed to Dobeckmun's sales staff in Omaha, Neb. Mr. Marsh will work with **Thomas Fitzpatrick** and **Albert Ross** of the **H. J. Cole Co.,** now representing Dobeckmun in the Omaha area. **C. D. Hammond, Jr.,** has been appointed to Dobeckmun's Boston office.

Lassiter Corp., Charlotte, N. C., has appointed **Robert C. Daly** and **W. Stuart**

MANY Styles AND Sizes

...THERE'S AN ANCHOR CAP FOR EVERY SEALING PURPOSE

ANCHOR HOCKING makes eight stlyes of metal and molded, screw and lug caps for medicinal and health products, toiletries, cosmetics and household chemicals. Each is designed for specific sealing purposes—all provide dependable, economical, attractive and efficient seals.

The uniformly high quality of Anchor Caps is the result of practical research and engineering, careful selection, testing and control of raw materials, high manufacturing standards and thorough quality control through laboratory tests and regular inspections.

If you package or contemplate packaging in glass let us recommend and send samples of the closures best suited to your particular needs. The services of our Package Engineering and Research Laboratories are also available to help you solve glass packaging problems.

Anchor® NKCT Caps are available in 15 sizes—18 to 89 mm.—lacquered, coated or privately decorated. Adaptable for a wide variety of products, their deep rolled thread rides under glass thread, pulls cap liner down tightly over entire 360° of container finish.

ANCHOR HOCKING

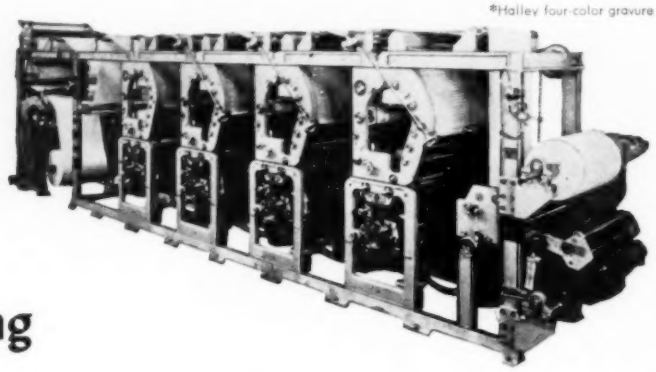
GLASS CORPORATION
LANCASTER, OHIO

★

The Most Famous Name in Glass

50 years of research and engineering

*Halley four-color gravure



HALLEY gravure presses successfully solve the problem often encountered of frequent stock changes. Job tickets may vary from transparent film to foil, paper or laminates to polyethylene . . . Halley time-saving operation remains constant.

HALLEY advanced design includes: flying splice (unwind and rewind), full automatic web tensions with dial indicators . . . Printing on air, both sides of web . . . High velocity air dryers . . . Interchangeable printing units . . . Web break detectors and stroboscope visual aid. Change gears are *not* required.

• • •

*The standard 4-color gravure press illustrated above is susceptible to modification to suit specialized requirements.

Halley Rotopress Corporation, 3310 North Ravenswood, Chicago, Illinois

FLEXOGRAPHIC (ANILINE) — LETTERPRESS & GRAVURE ROTARY PRESSES

LET US **SOLVE** YOUR
REGISTER AND SYNCHRONIZATION
PROBLEMS
ELIMINATE WASTE, LABOR, SET-UP TIME.
INCREASE PRODUCTION
TWO WAY
ELECTRONIC REGISTRATION
CONTROLS

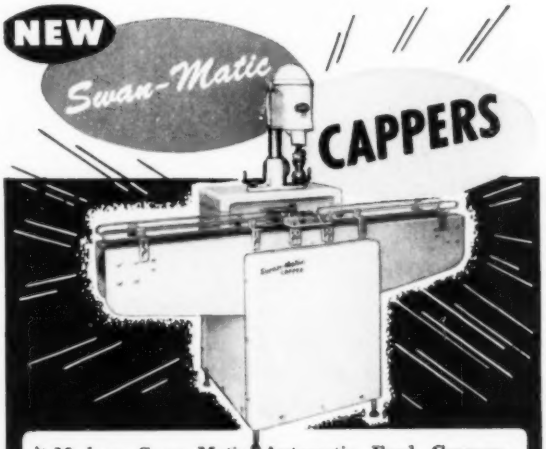
COMPLETE—Both as to Mechanical and Electronic parts (also available as separate units). A complete range of sizes for any web fed and rotary equipment

COMPLETELY NEW
A correction and variable speed transmission-combined in one unit

Write for further information

MACHINE O'MATIC, INC.
2045 N. HOYNE AVE. • CHICAGO 47, ILL.

NEW Swan-Matic CAPPERS



* Modern Swan-Matic Automatic Feed Cappers, Model 53-CF (with conveyor) and Model 53-NC (without conveyor), employ many new features for more economical setting of metal and plastic caps up to 145 MM in size.
* Instant variable speed control with no change of parts required for average containers, with the exception of proper size cap drivers.
* Precision friction clutch is easily adjusted for exact inch or foot pound torque for proper cap setting.

Send for full particulars and prices

MODERN Swan-Matic EQUIPMENT

W. H. SWANSON & COMPANY
Box 294
Manufacturers of Capping Machines and Equipment
WILMETTE, ILLINOIS

Plants and people

O'Neill as sales representatives. Mr. Daly will service the textile and soft-goods trade in New York. Mr. O'Neill will represent Lassiter in the Middle Atlantic States, where he will specialize in food packaging.

Lynch Corp., Toledo, Ohio, has acquired the **Anderson Brass & Aluminum Foundry.** Lynch is also negotiating a loan for $1,500,000 to be used in modernizing facilities, financing experimental machines and carrying the inventories of new products about to be introduced.

Macon Kraft Co., Macon, Ga., has appointed **James A. May** residing manager and **William M. Ebersole** manager of production. **Herbert A. Kidd,** vice president and general manager of Macon, and vice president of the Mead Corp., as well as general manager of **Rome Kraft Co.**, Rome, Ga., has moved his office and residence from Macon to Rome in advance of the start-up of Rome Kraft's new container mill.

Marathon Corp., Menasha, Wis., manufacturer of paper and packaging materials, has appointed **Judd H. Alexander** as a sales representative in the Dairy Packaging Div., with headquarters at Syracuse, N. Y.

Mirro-Products Co., High Point, N. C., manufacturer of point-of-purchase signs and displays, has installed vacuum-forming equipment for production of three-dimensional plastic displays. The equipment will also be available for packaging components and package displays.

The Munising Paper Co., Munising, Mich., has appointed **Glen R. Taff** as purchasing agent.

The New Jersey Cellophane Bag Co., Newark, N. J., now celebrating its 20th anniversary, has announced a side-crimped bag that stays flat under conditions where an ordinary bag would bellow, which is said to give the appearance of being considerably larger than a conventional bag of the same size and to display the product to better advantage.

Package Containers, Inc., Portland, Ore., manufacturer of Home-Toters, kraft bags with paper handles, aad Insta-Ties for the food industry, has moved to 336 S.E. Spokane St. The new, larger plant will also house the company's sales organization, **Pack-Age Sales, Inc.**

Dow Chemical Co., Midland, Mich., has transferred **E. E. Chamberlin** to the com-

American Quality SELLS...

WHAT'S *ON* THE BAG as well as WHAT'S *IN* THE BAG

Paper bags by AMERICAN have the showmanship . . . the quality appeal . . . that sell on sight. From package processing in your plant to point-of-sale selection by Mr. and Mrs. Consumer, AMERICAN bags are "engineered" to your special requirements. *Quality* by AMERICAN begins with sound paper bag custom styling and "follows-through" to every detail of design appeal, art appeal and superior printing. It's the extra quality on the AMERICAN paper bag that SELLS what is *on* the bag with greater ease . . . that sells what is *in* the bag with faster, greater profit margin for you.

HERE IS AN A.B.P. 8 POUNDER FOR Walter Kendall DOG FOODS

PROBLEM: to package a hard, sharp edged, kibbled dog food neatly in a large paper bag without creating an awkwardly bulky bag for store shelf.

SOLUTION: A. B. P. again does the trick with a triplex bag to prevent dog food from cutting through. Note the solid rigidity of the bag . . . its stand-up base . . . its neatly stitched top. The complex combination of full-color process, line and half-tone printing creates a new standard of quality in its field. It sells the Kendall story!

LET US KNOW YOUR PROBLEM AND WE'LL SEND YOU IDEAS, SAMPLES AND PRICES.

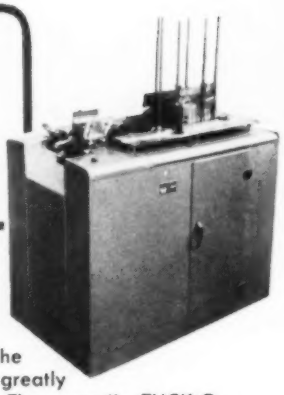
Also manufacturers of the famous Kard-o-Pak exclusive with A. B. P. for Sealed-In VACUUM FRESHNESS. Write today for the Kard-O-Pak Story.

American Bag and Paper Corp.

SELL WITH "ALL-AMERICAN" QUALITY

Water and South Streets Philadelphia 47, Pa.

COMPLETE CARTONING
FLEXIBILITY WITH THESE
VERSATILE SET-UP MACHINES



TUCK-O-MAT

The Model 50 TUCK-O-MAT needs the part time of only one attendant and greatly reduces your cartoning labor costs. The versatile TUCK-O-MAT handles a wide range of carton sizes and has an output of 3,500 cartons per hour.

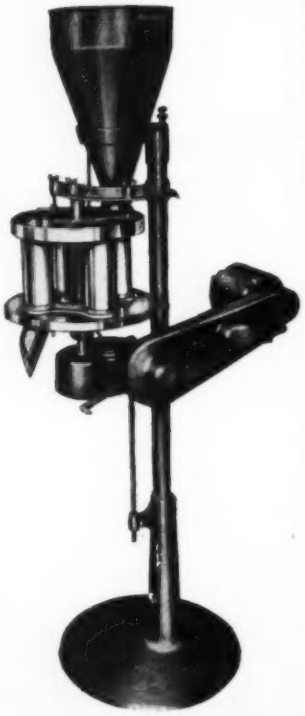
This conveniently small unit (2' x 4' x 3' high) is portable for short and long runs. Quick changeovers are made with inexpensive change parts. Write for folder BI-4.

CONVEY-O-MAT
The Model 54 CONVEY-O-MAT adds conveyor loading to the advantages of the TUCK-O-MAT. Delivers the set-up carton in upright position on the conveyor ready to receive your product.

MODEL 518 CARTON CLOSER
Used with the CONVEY-O-MAT, the Model 518 CARTON CLOSER provides a complete cartoning system. Many combinations are possible with these versatile units.

E. L. BIVANS, INC.
FORMERLY MACHINERY MFG. CO., INC.
2431 Dallas Street, Los Angeles 31, California
DIST. BY NEW JERSEY MACHINE CORP., HOBOKEN, CINCINNATI, CHICAGO, LOS ANGELES

Speed up your FILLING
with a
FILLMASTER
VIBRATORY FILLER
for Dry
and Semi-dry
Products



• ACCURATE
• INEXPENSIVE

Stuyvesant
ENGINEERING COMPANY
107 STUYVESANT AVE.
LYNDHURST, N. J.

Plants and people

pany's headquarters in Midland to take over responsibility for the sale of fabricated saran products. Succeeding him as supervisor of plastics sales for the St. Louis office is **Bennett M. Coons**, former plastics molding materials salesman in Chicago.

Mr. Hitt

Peter C. Hitt has been elected vice president and general sales manager of the **Rossotti Lithograph Corp.**, North Bergen, N. J. Mr. Hitt was formerly a director of Whiteford Paper Co., Inc., and executive vice president of their subsidiary, Papers-In-Motion.

Packer Machinery Corp., New York, has appointed **Palmer Supplies Co.** of Cleveland and Cincinnati, and **Ace Processing Equipment Co.**, Chicago, as agents.

Richard E. Paige, Inc., New York, has appointed **Wallace C. Kamens** as vice president in charge of sales.

Arthur Colton Co., Detroit, Mich., manufacturer of pharmaceutical and filling machinery, has appointed **Arthur R. Pearce** as manager of the Chicago office. Mr. Pearce will be responsible for the Midwest territory. **Quentin N. Cunningham** has been made a Colton field representative for the Pittsburgh territory.

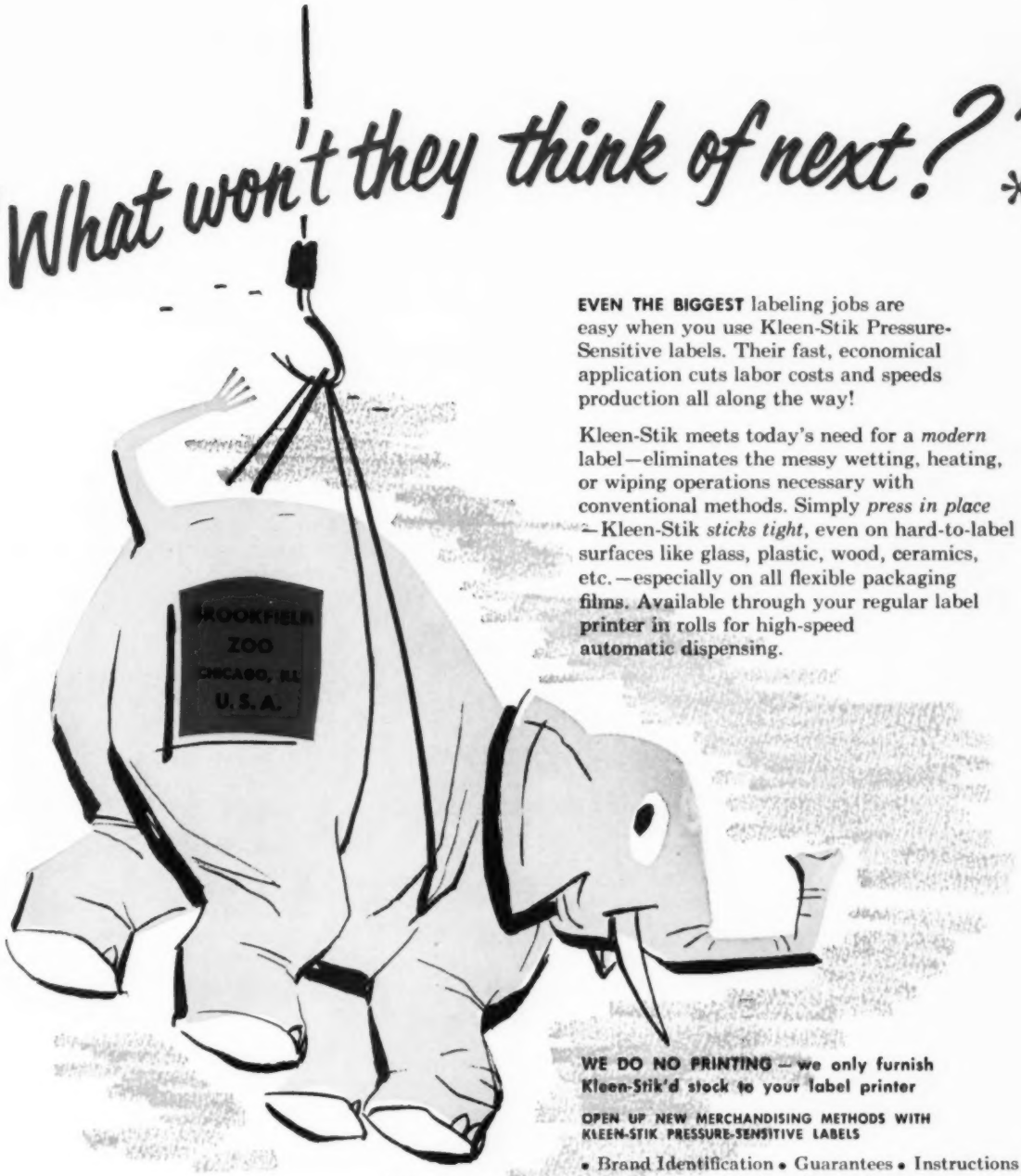
Berles Carton Co., Inc., has constructed a new factory building adjoining its present plant in Paterson, N. J. The new two-story brick and concrete structure will add 110,000 sq. ft. of working area to Berles' present facilities.

Bemis Bro. Bag Co., St. Louis, Mo., has appointed **D. A. Clarke** assistant manager of the company's Indianapolis plant and sales division. Mr. Clarke, who joined Bemis in 1938, has done sales and administrative work with national flour and feed accounts headquartered in Minneapolis.

The Sylvania Div., American Viscose Corp., Philadelphia, Pa., has appointed **Matthew G. O'Connor** a special representative on the West Coast. Mr. O'Connor will assist **E. C. Persike**, West Coast manager of the Sylvania Div., in contacts with **Blake, Moffitt & Towne**, Sylvania's exclusive distributor, and with other accounts on the coast.

American Type Founders, Elizabeth, N. J., has promoted **DeWitt G. Manley** to field sales manager. He will direct the

"What won't they think of next?" *



EVEN THE BIGGEST labeling jobs are easy when you use Kleen-Stik Pressure-Sensitive labels. Their fast, economical application cuts labor costs and speeds production all along the way!

Kleen-Stik meets today's need for a *modern* label—eliminates the messy wetting, heating, or wiping operations necessary with conventional methods. Simply *press in place*—Kleen-Stik *sticks tight*, even on hard-to-label surfaces like glass, plastic, wood, ceramics, etc.—especially on all flexible packaging films. Available through your regular label printer in rolls for high-speed automatic dispensing.

WE DO NO PRINTING — we only furnish Kleen-Stik'd stock to your label printer

OPEN UP NEW MERCHANDISING METHODS WITH KLEEN-STIK PRESSURE-SENSITIVE LABELS

- Brand Identification • Guarantees • Instructions
- Seals • Trade Marks • Inspection • Prices
- Operation Diagrams • Other Volume Labeling

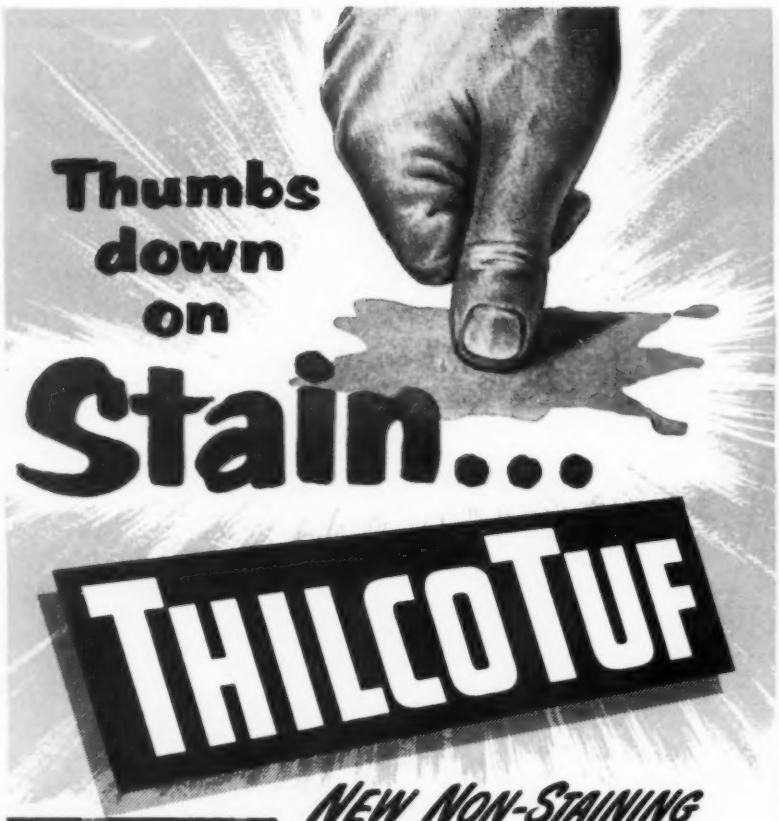
Write for free samples *to test on your own product or package!*

KLEEN-STIK PRODUCTS, INC.

225 NORTH MICHIGAN AVENUE • CHICAGO 1, ILLINOIS

Pioneers in Pressure Sensitives for Advertising and Labeling

* We're only foolin' — nobody has actually used Kleen-Stik labels on live elephants! But our expert technical staff has helped solve many problems almost as tough. Ask for their recommendations on your next difficult labeling job.



NEW NON-STAINING

PROTECTIVE WRAP SAFEGUARDS YOUR PRODUCTS — ALL THE WAY!

Better product protection plus greatly reduced damage claims are yours with THILCO-TUF—the amazing new duplex wrapper. Exclusively Thilco's, its *blond elastic laminant* eliminates danger of stain or offset due to "bleeding" and does away with most of the common faults found in other protective papers.

DURABLY STRONG — THILCO-TUF is so pliable, yet so rugged it has nearly three times the puncture resistance of other comparable grades. Available with or without reinforcing strings—or polyethylene coated.

PERSONALIZED, TOO — THILCO-TUF may be print decorated for identity, advertising and simplified inventory control at very little extra cost.

PROTECTS UPHOLSTERED FURNITURE

IDEAL FOR CORDAGE, CARPETS, TEXTILES

Write for Samples!

THILCO-TUF gives you all these advantages:

- Does not stain or offset
- Resists easy punctures, tears
- Pliable . . . easy to handle
- Flexible, even when cold
- 10 ft. widths without seam
- Non-susceptible to grease
- Dirt and dust repellent
- Economical, low in cost

THILCO

Functional Papers FOR PROTECTION THAT COUNTS!

NEW YORK • CHICAGO
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DETROIT • MINNEAPOLIS

THILMANY PULP & PAPER COMPANY
KAUKAUNA • WISCONSIN

Plants and people

selling activities of ATF's 12 regional offices and will be responsible for the sales volume of all company products.

Ben Karpowicz has been named vice president in charge of production for **Pak-Rapid, Inc.**, Philadelphia.

James R. Douglas has been made sales personnel development manager of the **Permacel Tape Corp.**, New Brunswick, N. J.

Conco Products, Jersey City, N. J., has acquired the plant and all manufacturing facilities of the **Permanent Label Corp.**, Bloomfield, N. J. The plant is equipped to silk screen, hot stamp and offset print plastics, metal, wood, etc.

Plax Corp., West Hartford, Conn., has appointed **Peter & Co.**, Louisville, Ky., as bottle distributors in western Kentucky and southern Indiana. Two new offices have been opened by **S. Rieckes & Sons,** also Plaxpak bottle distributors, at 1831 Egbert Ave., San Francisco, and at 4071 N. Lawn Dr., Route 5, Dallas, Tex.

Polymer Industries, Inc., Springdale, Conn., has opened a new plant in Springdale, consolidating the facilities of the former Astoria, L. I., and Brooklyn plants. Increase to the company's manufacture of industrial adhesives and textile chemicals is reported to be approximately 50%.

Mr. Van Ort

Warner Bros. Co., Bridgeport, Conn., manufacturer of foundation garments and Warnercraft boxes, has elected **E. J. Van Ort** to the board of directors. Mr. Van Ort joined Warner's Box Div. in 1934 and has served the company in a variety of capacities.

The S. & W. Moulding Co., Columbus, Ohio, has assigned **Charles M. Riley** a sales territory in the Rocky Mountain and Southwest area. **Robert S. Johnson** has been made a factory installation instructor.

Donald C. Baker has been appointed assistant manager of the Akron branch of **A. Schrader's Son, Div. of Scovill Mfg. Co., Inc.**, Brooklyn. **Howard T. Pullen** has joined Schrader as sales representative for Kansas, Nebraska and Western Missouri. **J. Gordon Lever,** sales representative for Schrader, was among those

PHOTOGRAPHED AT PLAYLAND, ROCKAWAY BEACH, N. Y.

At its selling best...

WRAPPED IN OLIN CELLOPHANE

Famous Planters salted peanuts sell faster, stay fresher longer in modern *sales* packages of Olin Cellophane.

More and more leading manufacturers are coming to Olin for fresh packaging ideas . . . ideas that have doubled and tripled the sales of some products thought incapable of further growth.

If you're seeking more sales action, new markets, new self-service appeal, call on Olin's Merchandising Service.

Let their packaging consultant show you how Olin Cellophane or Polyethylene can give your product an *action* attraction. Olin Film Division, 655 Madison Ave., New York.

Olin CELLOPHANE

A Packaging Decision Can Change the Course of a Business

The eyes have it...

While the eager youngster is quick to swap his nickel for the brightly boxed menagerie crackers, his mother shops more carefully. Both respond to the same stimuli, pick the packages that catch their eye, excite their interest, whet their appetites. And in this age of mass display, a manufacturer can do big business with both by printing his packages and labels in gravure.

Gravure prints persuasion on packages, wrappers and labels. It depicts the product in fullest fidelity, shows colors to their best advantage, adds quality.

Gravure can be used for small runs or unlimited quantities on paper, board, cellophane, vinyl and other packaging materials; and on long runs cuts costs. Merchandisers convert more customers with packages printed in gravure.

Intaglio prepares cylinders and plates for gravure printing... takes your art and copy, makes the color separations and the finished positives, engraves the cylinders and plates, provides color proofs for your approval, and to guide your printer.

Our three strategically located plants have the most modern equipment, much of which we designed ourselves. Our gravure craftsmen are more careful, competent, skillful and experienced; and work in three shifts for faster deliveries.

The quality of our production is evident in any of the 2500 packages and labels processed by us last year. Intaglio Service does more gravure production than any other company.

Our six offices are at your service.

Intaglio Service
CORPORATION

America's First Gravure and Letterpress Servicers

305 East 46th St., New York—731 Plymouth Court, Chicago—1835 Lewis Tower Bldg., Philadelphia—Intaglio-Cadillac, Inc., 4240-14th Ave., Detroit—260 Kearny St., San Francisco—1932 Hyperion Ave., Los Angeles

Plants and people

honored at the distinguished salesman award banquet recently held at the Waldorf Astoria, New York.

Scovill Mfg. Co., Waterbury, Conn., has moved its Rochester, N. Y., sales and service offices to 175 Dodge St. **S. O. Drivdahl** continues as manager of the district office.

Triangle Paper & Box Co., Chicago, has appointed **Joseph A. Noble** as plant superintendent at the company's corrugating plant at 1501 W. 15 St.

William J. McKeon has been named sales manager of **Vac-Tie Fasteners, Inc.**, Elizabeth, N. J.

Dr. Redding

Dr. Edward M. Redding has been made director of research and development of the Crown & Closure Div., **Crown Cork & Seal Co., Inc.**, Baltimore, Md. Dr. Redding is a member of the American Chemical Society, American Institute of Chemical Engineers, Ohio Academy of Science, and the American Assn. for the Advancement of Science.

Jack Holbert has joined the Michigan sales force of the **Wabash Fibre Box Co.**, Terre Haute, Ind. **Orlen Hungerford** has also been added to the Wabash staff.

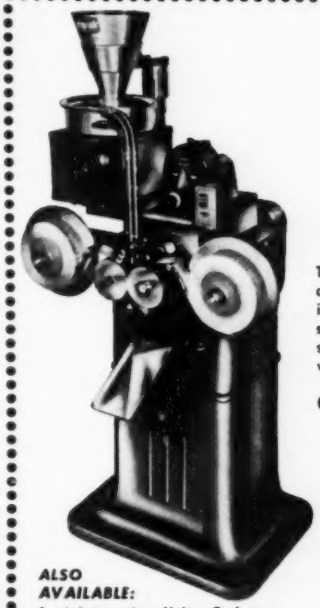
C. R. Chamberlain has assumed the responsibility for the operation of the wood department of the Covington, Va., mill of **West Virginia Pulp & Paper Co.**, New York.

Alfred M. Endlekofer has joined the New York sales office of the **T. C. Wheaton Co.**, Millville, N. J.

St. Regis Paper Co., New York, has acquired all of the stock of **Superior Paper Products Co.**, Pittsburgh, Pa. Superior, which manufactures corrugated fibreboard in various forms for shipping purposes, will operate as a subsidiary of St. Regis.

Gilbert Spillert has joined The Wortendyke Div., **Camp Mfg. Co., Inc.**, Richmond, Va., as manager of the coated and laminated products department.

J. B. Straygold, president and treasurer of the **Van Pell Chemical & Supply Corp.**, New York, has formed **J. B. Straygold Associates** to act as packaging consultants on filling, labeling and packaging machines in all phases of the cosmetics,



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Semi-Automatic Unit Packager with smaller capacity at lower cost.

WRAP-ADE
AUTOMATIC
UNIT PACKAGER

A VERSATILE, LOW COST MACHINE FOR PACKAGING PRACTICALLY ANY SMALL ITEM!

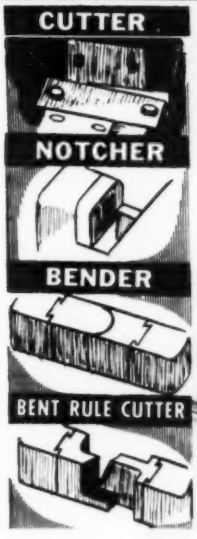
The WRAP-ADE UNIT PACKAGER performs an entire cycle of packaging operations—including feeding, filling, forming and sealing practically every type of heat sealing material. It has been built on the simplest possible principles conducive to high speed packaging, versatility, and low upkeep costs.

CHECK THESE OUTSTANDING FEATURES:

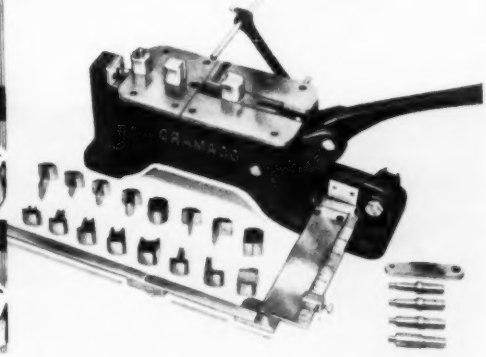
- *FEEDING MECHANISMS* available for all types of products: conveyor, magazine, rotary table, volumetric filler, automatic hoppers.
- *SIZES:* Can be designed for any products up to 3" x 7".
- *CAPACITY:* Small items such as tablets—300-350 per minute, units the size of a bottle cap—125 per minute (single row*), powder packets—2" x 3"—70 per minute (single row*). *Duplex feed, where practical, will double speed.
- Quick adjustment for multiple cut-off, no gear change necessary.
- May be equipped to print markings in register.

Send us a sample of your product today for our prompt quotation. You will be surprised to see how much you can save!

wrap-ade **MACHINE CO., INC.**
Manufacturers of Packaging Machinery for over 20 yrs.
83 VALLEY STREET, BELLEVILLE 9, NEW JERSEY
PHONE—PLYMOUTH 9-6150



***Now!* All FOUR Operations in ONE**
at HALF THE COST!
IN HALF THE TIME



with
THE NEW CRAMACO DIEMAKER

Complete diemaker in one machine; does the work formerly required of four machines.

Equipment includes 8 sets dies—interchangeable with present equipment; 4 mandrels; work-saving stroke-step; and more accessories. Send for fully illustrated folder with information on this unbelievably versatile machine.

- **COMPACT**—requires one-fourth the usual space
- **FAST**—every operation at fingertips; without changing setup
- **ACCURATE**—all parts machined to rigid specifications
- **RELIABLE**—acclaimed by diemakers, printers—incredible labor saver

CRAFTSMEN MACHINERY CO.
527 Atlantic Avenue, Boston 10, Mass

YOU CAN TELL
A HAYSSEN-WRAPPED PACKAGE
BY THE WRAPPING IT KEEPS!

easy, automatic operation

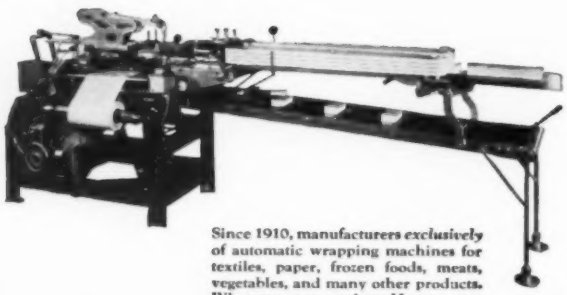
Regardless of size or shape, you get a neat, tight wrap on every package with a Hayssen automatic wrapping machine. *Wrapping's easier!* Also, production men report savings up to 80% over previous wrapping costs.

simple to adjust

No complicated adjustments from size-to-size on a Hayssen. No gears or sprockets to remove or change . . . no need for expensive mechanics to change size, either. So simple the operator does it on the job.

more sturdily built

Hayssen's simple, rugged design, using fewer moving parts, keeps these machines working and saving through years of dependable, trouble-free service. Every moving part is in the open and easily reached for maintenance and cleaning.



Since 1910, manufacturers *exclusively* of automatic wrapping machines for textiles, paper, frozen foods, meats, vegetables, and many other products. Whatever your product, Hayssen can solve your wrapping problem. WRITE today for more information.

Hayssen MFG. COMPANY

Dept. MP-5, SHEBOYGAN, WISCONSIN

Plants and people

drugs, industrial and commercial chemical and allied product fields.

Mr. Huntington

Dennison Mfg. Co., Framingham, Mass., has elected four new officers: **Dana C. Huntington,** vice president; **Robert N. Wallis,** treasurer; **Calvin E. Josselyn,** assistant treasurer; and **Francis S. Swisher,** clerk. Mr. Huntington joined the company in 1919.

Scott J. Saunders has been appointed director of advertising and sales for the **R. G. White Engineering Co.**, Brooklyn, manufacturer of custom-engineered machinery and equipment for the pre-packaging industry.

Dan Schoenholz has been promoted to director of the product development department of **Foster D. Snell, Inc.**, New York, consulting chemists and engineers. Mr. Schoenholz, who joined Snell in 1944, will be in charge of product development, and applied research and testing in the fields of paints, waxes, varnishes, polishes, inks, adhesives and chemical specialties. **Bernard Berkeley** will be assistant director of the product development department.

Snell has promoted **Gabriel Appleman** to be in charge of process design. Mr. Appleman's activities will include the design of all types of chemical processing equipment and complete chemical processing plants and packaged detergent plants. **S. E. Taub** has been named to handle purchasing for the **Hull Co., Foster D. Snell Research, Inc.** In addition, Mr. Taub will supervise all pilot plants.

G. J. Bayern has been appointed to the staff of Snell in charge of package engineering. He will conduct a research program on the packaging and packing of chemicals used by the Dept. of Defense. He will investigate present packaging methods and make recommendations for more efficient packaging techniques for the Chemical Corps.

The Spray Dryer Section of Snell will be headed by **J. W. La Cerra.** Mr. La Cerra will be in charge of the design and construction of Snell packaged unit spray dryers. **John Hegedus** has been appointed a junior chemical engineer in process design and **L. Petrone** has been engaged as a junior chemical engineer to do research in engineering physics.

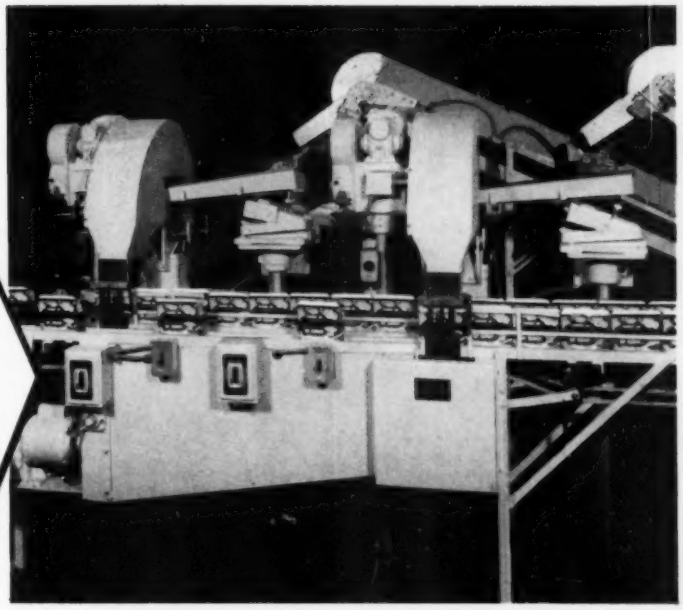
The Shellmar-Betner Flexible Packaging Div., **Continental Can Co.**, has opened a

Here's the answer to another packaging question

How can toy cookies be weighed more accurately and filled into cartons at higher speeds?

This Hy-Tra-Lec weighing system provides the answer. It operates at an approximate speed of 70 cartons per minute with an accuracy previously unattainable.

Look to Wright for more accurate, high speed weighers for free flowing, dry products. Standard models available for both automatic and semi-automatic lines. Or Wright will design a special system to meet your particular requirements.



Machines for sale ... Terms ... Lease

WRIGHT MACHINERY COMPANY

EST. 1893 · 500 CALVIN ST., DURHAM, N. C.
SUBSIDIARY OF THE SPERRY CORPORATION

WRIGHT MACHINERY COMPANY: CALVIN STREET, DURHAM, N. C.; 921 BERGEN AVENUE, JERSEY CITY, N. J.; MICHIGAN SQUARE BUILDING, 540 N. MICHIGAN AVENUE, CHICAGO, ILLINOIS. EDWIN F. DeLINE COMPANY, 224 W. ALAMEDA AVENUE, DENVER 9, COLORADO. R. P. ANDERSON COMPANY: 1122 TEXAS BANK BUILDING, DALLAS 2, TEXAS; 5643 OVERBROOK LANE, HOUSTON 19, TEXAS; 925 N. SOLOMON PL., NEW ORLEANS 19, LA.

CUT COSTS OF SHIPPING ... ELIMINATE BREAKAGE SPOILAGE ... DELAYS

THIS NEW CONCEPT OF PACKAGING answers one of today's most challenging industrial problems! With Webhart's ENGINEERED PACKAGING, you can take full advantage of up-to-the-minute packaging techniques, materials and production facilities . . . backed by the industry's top consulting skill and field experience. When you take a packaging problem to Webhart, they'll handle the whole job for you, if you wish . . . from research and design right through the actual packaging and loading for shipment. And it will be ENGINEERED PACKAGING from start to finish!

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33 West Union Street . . . Pasadena 1, California
'phones: SYcamore 2-2268 . . . RYan 1-8159

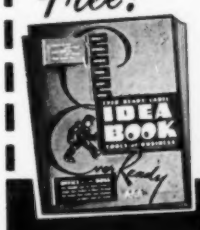
WEBHART . . . *pioneering in* ENGINEERED PACKAGING *for industry*

It's **modern**
. . . if it's **plastic**
Keep Pace with an

Ever Ready Label

For best design, labor-saving and practical application of labels . . . at prices in keeping with modern needs, be sure to call on EVER READY!

Free!

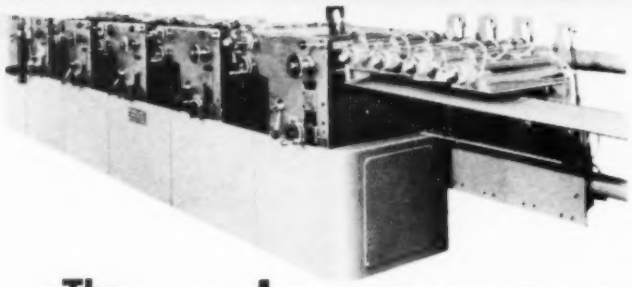


Ever Ready is in the forefront of labeling development, collaborating closely with leading manufacturers in the paper, plastics, adhesives and related industrial fields . . . improving standard lines and developing new ones. Every facility, mental and mechanical is here at your service. There is no label problem that can't be solved at EVER READY. That's the challenge . . . accept it please!

♦ *Send for Ever Ready IDEA-BOOK*

Ever Ready *Label* Corp.
357-361 Cortlandt St., Belleville 9, N. J.

A GOOD PRESS + GOOD PLATES = GOOD PRINTING



The MERCURY Flexographic Press

performs at its best with MOSSTYPES®

...the pre-madeready rubber printing plates

The finest engines run at peak efficiency only with the right fuel. It's the same with flexographic printing equipment, too — for top-quality performance you have to team a precision-engineered press with precision-molded printing plates. That's why most leading makers check out their new presses with MOSSTYPES, the rubber plates you can always depend on for accuracy and uniformity.

Write for literature about MOSSTYPE Rubber Plates

MOSSTYPE CORPORATION

33 Flatbush Avenue · Brooklyn 17, N. Y.

RUBBER PLATES MOSSTYPE DESIGN ROLLERS

Now! POWER HEAT SEALING with NO GUARDS NEEDED

Vertrod

MAGNETICALLY-OPERATED THERMAL IMPULSE* HEAT SEALER

Top Production Speed
Complete Operator Safety
- no crushed fingers
- no burned fingers

The Vertrod Magnetically-Operated Thermal Impulse Heat Sealer is the *first and only* power heat sealer which fully protects the operator. NO BURNED FINGERS. Uniform, tear-resistant seals, electronically timed, are made with *cold* heater bars. NO CRUSHED FINGERS. Magnetic closing—a Vertrod *exclusive* — concentrates all the jaw pressure into the last quarter-inch.

Maximum usefulness is obtained from this machine because *no safety guards are required.* The unit operates in any position and can be started by foot, knee or fingertip switches. Universal type heater bar can be changed from "T" type to "M" type without removal.

All Thermal Impulse Heat Sealers
- *seal through wrinkles, gussets, liquids and powders*
- *seal all thermoplastics and non-metallic barrier materials*

Vertrod Corp.

THERMAL IMPULSE HEAT SEALING MACHINERY

17 Williams Avenue Brooklyn 7, N. Y.

West Coast Plastic Distributors
4113 W. Jefferson Blvd. Los Angeles, Calif.

CANADA: Herman & Leal
637 Craig St., W. Montreal, P. Q., Canada

* Patented process manufactured under one or more of the following patents: 2,460,460; 2,509,439; 2,574,094; 2,574,095.

Plants and people

district sales office at 2501 W. Mockingbird Lane, Dallas, Tex., with **Howard D. Martin** as district sales manager.

The Raymond Bag Co., Middletown, Ohio, manufacturer of multiwall paper shipping sacks, has appointed **Henry A. Kennington** as general sales manager. Mr. Kennington will be responsible for all activities pertaining to the sale of Raymond's multiwall paper shipping sacks to all industries.

Endura Mfg. Corp., Quakertown, Pa., has appointed **Lee Hickox** as Midwestern sales representative for latex impregnated papers in a five-state area. Mr. Hickox will headquarter in Chicago.

The Beech-Nut Packing Co., Canajoharie, N. Y., has formed a Chemical Dept. for the manufacture of polyvinyl acetate resins. The new department, operating out of Canajoharie, will manufacture the resins in both solid and emulsion form for the textile and adhesive fields, and also for protective and decorative coatings. Sales agent for the department is **Wyrough & Loser**, Trenton, N. J., who will represent the department in New England, the Middle Atlantic States, Delaware, Maryland, Virginia and the District of Columbia.

National Starch Products, New York, has appointed **William C. Buffing, Jr.**, as controller.

Aluminum Co. of America, Pittsburgh, Pa., has promoted **Wilfred Turbeville** to the newly created post of manager of industrial foil sales with offices in Pittsburgh. Mr. Turbeville will coordinate Alcoa's efforts in the sale of foil in electrical condensers, lithoplate, etc.

Minnesota Mining & Mfg. Co., St. Paul, Minn., has announced four promotions in the industrial trades tape division. **Fred L. Hayes** has been appointed sales manager in the Atlanta, Ga., and High Point, N. C., area. **George E. Steck**, who previously handled industrial sales, will now devote all his time to wholesale-retail sales in the same area.

Robert W. Draine has been made sales manager in Dallas, Tex., allowing **Oliver F. Richardson** to devote his efforts to wholesale-retail sales in the Dallas branch.

William E. Woods has been made New York sales supervisor. He was a salesman in upstate New York prior to this appointment.

Richards H. Burhoe has been pro-

fisher's foils

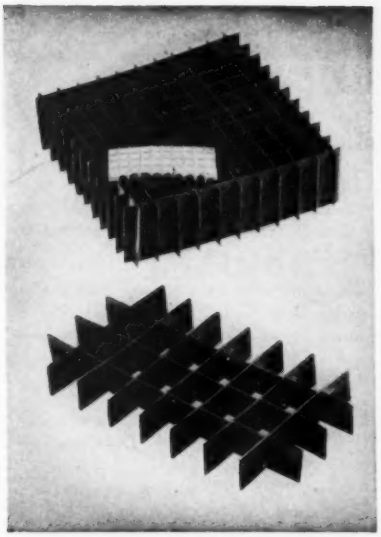
for brilliance

FISHER'S FOILS LIMITED WEMBLEY MIDDLESEX ENGLAND

TELEPHONE WEMBLEY 6[illegible] CABLES & GRAMS LIONIT WEMBLEY (ABC CODE 6TH EDN)

★ *A Quality Product of* **FISHER'S FOILS** *of* **LONDON, ENGLAND.**

Throughout all stages of manufacture, every roll of foil made by Fisher's Foils of England is *automatically controlled* for gauge consistency by the latest beam gauge. Send today for wide range of samples or ask our representative to call.
fisher's
foils



PROTECT WITH **PARTITIONS!**

Solve YOUR Internal Packaging Problems SAFELY—SECURELY!

Made to Your Exacting Specifications for Pharmaceuticals
Candy
Heart Box Inserts
Collapsible Tubes
Toys and other fragile items

Plain and Die Cut

Prompt Delivery
Write or Call for Complete Data

RAPID CUTTING CO., INC.
90-96 ENGERT AVE.
BROOKLYN 22, N.Y.
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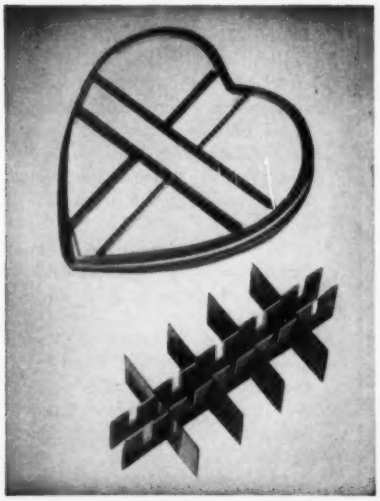
(Formerly at 169-173 Franklin Ave.)



Plants and people

moted to sales supervisor in the Boston, Mass., area. He covered the Boston industrial territory before his appointment.

Colodense, Ltd., Bristol, England, has announced a change of ownership which will take place shortly. **E. S. & A. Robinson** will dispose of their interest to **British Cellophane, Ltd.**, who will become the sole owners and management of Colodense.

The Vlchek Tool Co., Cleveland, Ohio, has expanded operations at its plastics plant in Middlefield, Ohio, by the addition of 12,000 sq. ft. of floor space and installation of extrusion and vacuum-forming equipment. The company will offer a custom vacuum-forming service to the trade and is able to handle work requiring acetate, butyrate, styrene, or vinylite sheets in sizes up to 42 by 72 in.

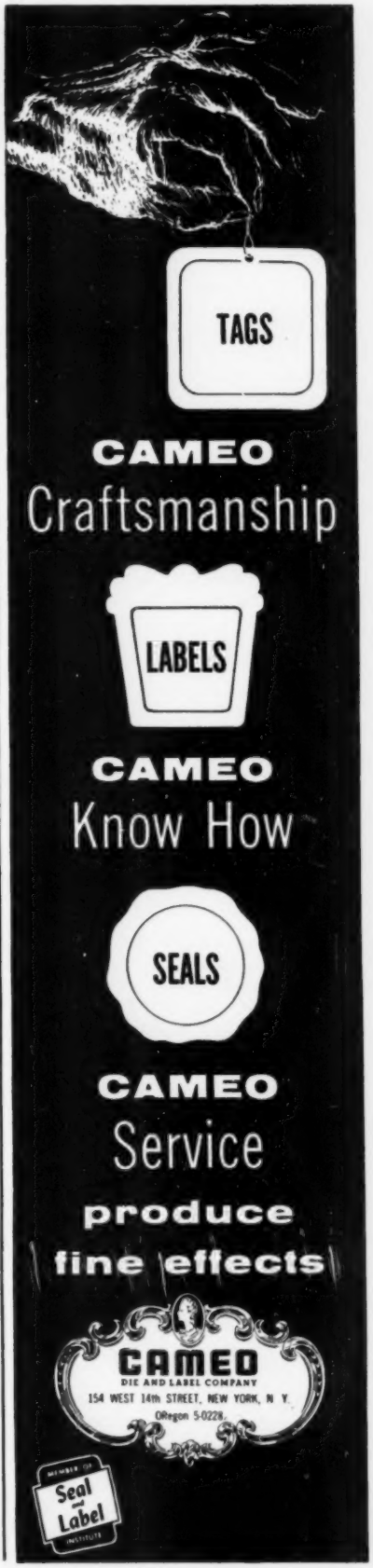
George L. Richmond, president of **Bloomer Bros. Co.**, Newark, N. Y., manufacturer of paperboard boxes and food packages, died on March 29 of a heart attack.

Pierre Samuel du Pont, a director and honorary chairman of the board of **E. I. du Pont de Nemours & Co., Inc.**, Wilmington, Del., died on April 5 at the age of 84. Pierre du Pont acquired the company at the turn of the century with his two cousins, Alfred I. and T. Coleman. Together they transformed the company, then 100 years old, from a maker of black powder into a large chemical organization. Later there followed a period of great diversification and growth under the direction of Pierre and his two brothers, Irenee and Lammot. Of the three, only Irenee now survives.

William H. Mandeville, vice president, director and chairman of the executive committee of **Thatcher Glass Mfg. Co., Inc.**, Elmira, N. Y., died on March 21 at Palm Springs, Calif.

Eugene W. Skinner, president of **Sealright Co., Inc.**, Fulton, N. Y., died in Los Angeles on Mar. 1, Mr. Skinner was 70 years of age. Co-founder of Sealright in 1917 with the late **Dr. Wilbur L. Wright,** he had been president of Sealright since Dr. Wright's death in 1933.

Martin J. Anderson, director of engineering research for **Mathews Conveyer Co.**, Ellwood City, Pa., died suddenly at Mt. Dora, Fla., on March 9.



For your information

William H. Walters of The United States Printing & Lithograph Co. was re-elected president of the **Folding Paper Box Assn. of America** at its recent annual meeting. New members elected to the executive committee included **Norman F. Greenway**, Robert Gair Co., Inc.; **James N. Andrews** of The Ohio Boxboard Co.; and **D. A. Forsberg** of Forsberg Paper Box Co. Continuing to serve on this committee, in addition to Mr. Walters, are **Leonard Dalsemer** of The Lord Baltimore Press, Inc.; **W. C. Palmer** of National Folding Box Co., Inc.; and **William W. Fitzhugh, Sr.**, William W. Fitzhugh, Inc.

A new type of industrial seminar, said to make the broadest approach to packaging and materials-handling problems, will be introduced concurrently with the **Fifth Western Packaging & Materials Handling Exposition** in San Francisco's Civic Auditorium on Aug. 17-19. **Prof. Samuel Rubin,** head of the University of Southern California's Transportation Dept., who has had 35 years of practical experience combatting industrial administrative and engineering problems, will be conference moderator. Top industry representatives will consider packaging and materials handling, in closed sessions, from the standpoint of production-cost cutting and operating efficiency, as well as long-range development of administrative and engineering methods.

The third biennial **Packaging & Materials Handling Institute,** sponsored by the **Society of Industrial Packaging & Materials Handling Engineers** and the **American Materials Handling Society** in cooperation with other groups, will be held June 8-9 at the University of Southern California. On June 8 a packaging session on commercial and specification packaging will be held. The June 9 session will be devoted to materials handling. The Institute fee is $7.50 per person for one day, or $12 for both days.

Continental Can Co. has been awarded a medal of honor by **Freedoms Foundation, Inc.,** for its 15-min. color film, "The Story of Packaging," as an "outstanding achievement in bringing about a better understanding of the American way of life."

A 24-page pocket-size booklet entitled "Silicate Fibre Box Manual" has been published by the **Sodium Silicate Mfrs. Institute.** Suggestions for efficient production of corrugated board are outlined. Copies are available from the Sodium Silicate Mfrs. Institute, P. O. Box 281, William Penn Annex, Philadelphia 5.

The Wirebound Box Mfrs. Assn.'s statistical review for the year presented at the association's recent annual meeting revealed that the wirebound shipping container industry set new high records in 1953 for both dollar volume of business and the number of containers produced and sold. The association elected **Neil A. Fowler** of General Box Co. as president and **J. A. Sowell** of T. R. Miller Mill Co. as vice president. Newly elected directors are: **S. J. Adkins** of Adkins Mfg. Co.; **Harry F. Blindman** of Flour City Box Mfg. Co.; **John C. Brill** of Rathborne, Hair & Ridgway Box Co.; **J. A. Cragwall** of General Box Co.; **D. K. Gooding** of Wisconsin Box Co.; **George H. Kubes** of American Box Co.; **F. J. Martin, Jr.,** of Martin Bros. Box Co.; **J. R. Miller, Jr.,** of T. R. Miller Mill Co.; **H. Wallace Norton** of Cummer-Graham Co.; **D. R. Simmons** of Elberta Crate & Box Co.; **G. W. Thompson** of Indianapolis Wirebound Box Co.; and **A. L. Whiton** of Chicago Mill & Lumber Co.

The second **Basic Materials Conference,** running concurrently with the **Basic Materials Exposition,** May 17-20, International Amphitheatre, Chicago, will cover hundreds of new uses of materials for products manufactured by the nation's industrial plants. Emphasizing the development of new products, the show and conference are expected to attract more than 10,000 visitors. Registration cards are available from **Clapp & Poliak, Inc.,** 341 Madison Ave., New York 17.

The Lassiter Corp. has announced publication and distribution of two separate monthly news letters to inform textile and food producers of the latest successful ideas in packaging, marketing and merchandising of soft goods and food products. Both bulletins are called *Lassiter Letter* and are available by writing the Lassiter Corp., 350 Fifth Ave., New York.

The first **Sales Aids Show,** sponsored by the **Advertising Trades Institute, Inc.,** is scheduled for May 10-12 at the Biltmore Hotel in New York. Some 125 organizations are expected to exhibit.

The sixth annual meeting of the **Technical Assn. of the Graphic Arts,** will be held May 10-11, at the Schroeder Hotel in Milwaukee. Technical papers on subjects ranging from better control of color to the production of long-run collotype plates will be featured.

The American Management Assn. has scheduled a two-day special conference on getting the most for the marketing dollar, to be held May 10-11 at the Hotel Commodore, New York. Some 1,000 sales executives from the U. S. and Canada are expected to attend.

The American Society for Quality Control will hold its eighth annual conven-

What's doing

May 10-11—**A.M.A. Marketing Conference,** Hotel Commodore, New York.

May 10-12—**Advertising Trades Institute Sales Aids Show,** Biltmore Hotel, New York.

May 16-19—**U. S. Wholesale Grocers' Assn.,** convention-exhibit, St. Louis, Mo.

May 16-19—**Flavoring Extract Mfrs. Assn. of U. S.,** annual convention, Biltmore, New York.

May 16-21—**New York Stationery Show,** New Yorker, New York.

May 17-19—**Grocery Mfrs. of America, Inc.,** mid-year meeting, Boca-Raton Hotel, Boca Raton, Fla.

May 17-19—**Millers National Federation,** Edgewater Beach Hotel, Chicago.

May 17-20—**National Paper Box Mfrs. Assn.,** Drake, Chicago.

May 17-20—**Basic Materials Exposition & Conference,** International Amphitheatre, Chicago.

May 19-20—**National Fibre Can & Tube Assn.,** annual meeting, Chicago.

May 23-26—**Super Market Institute,** convention, Cleveland.

May 23-27—**American Assn. of Cereal Chemists,** annual meeting, Cosmopolitan Hotel, Denver.

May 23-27—**Assn. of Operative Millers,** technical conference, Hotel Sherman, Chicago.

May 27—**Fruit & Syrup Mfrs. Assn.,** Hotel Biltmore, New York.

May 27—**Packaging Assn. of Canada,** Fourth Ontario Regional Conference, General Brock Hotel, Niagara Falls, Ont.

May 27-30—**Paper & Twine Assn.,** annual meeting, French Lick Springs Hotel, French Lick Springs, Ind.

May 30-June 6—**International Congress of Agricultural & Food Industries,** Madrid, Spain.

May 31-June 11—**Canadian International Trade Fair,** Exhibition Grounds, Toronto.

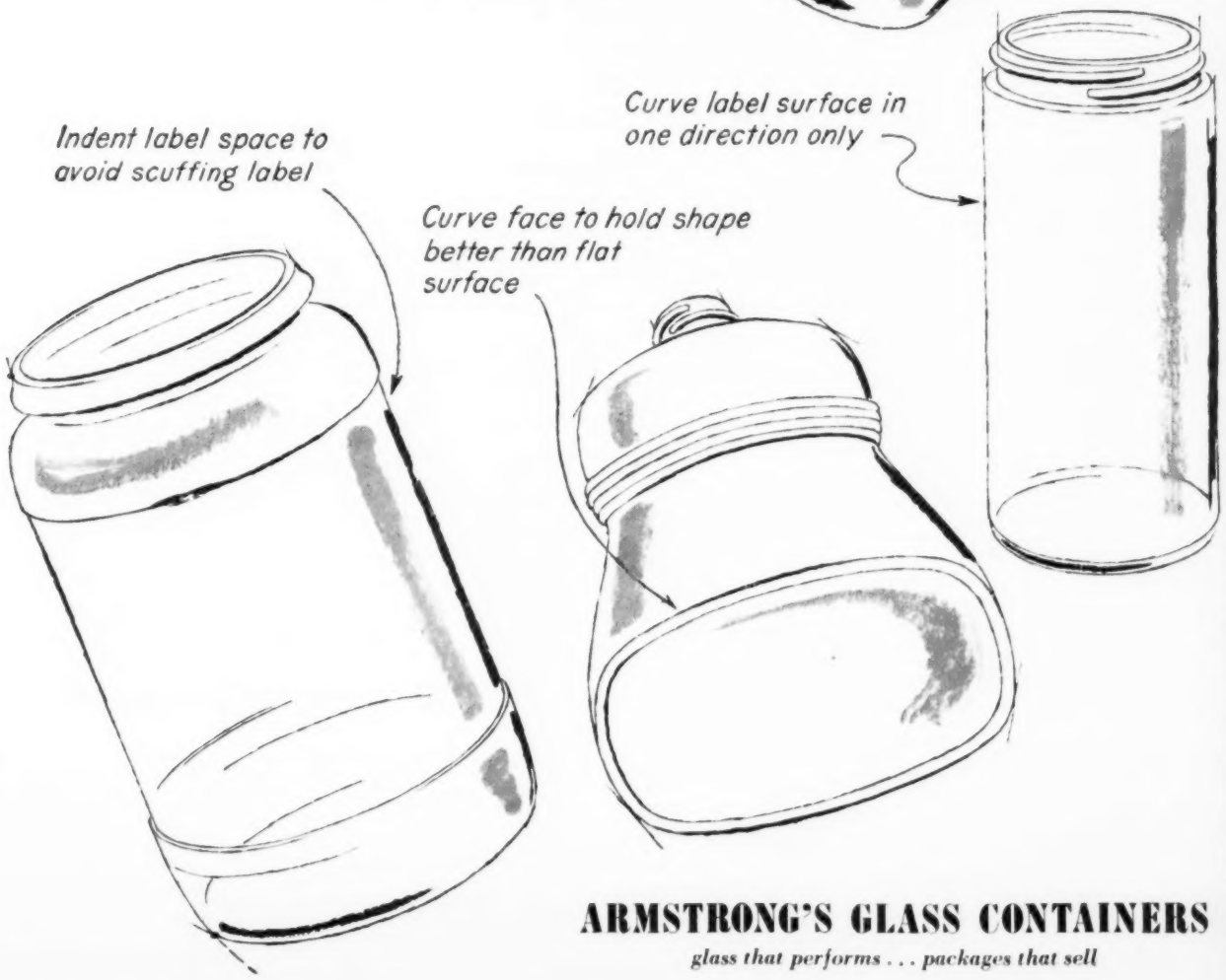
DESIGN MAKES THE DIFFERENCE

Easy ways to avoid labeling headaches

Most labeling problems can be licked when the container is designed. Shown here, for example, are ways of avoiding four common sources of labeling trouble.

Making sure your container has no "built-in" labeling problem is an important part of every design created by Armstrong's package designers. They can also advise you on such things as building a re-use into your container, adding a stacking feature, giving your package more "personality," or reducing its weight.

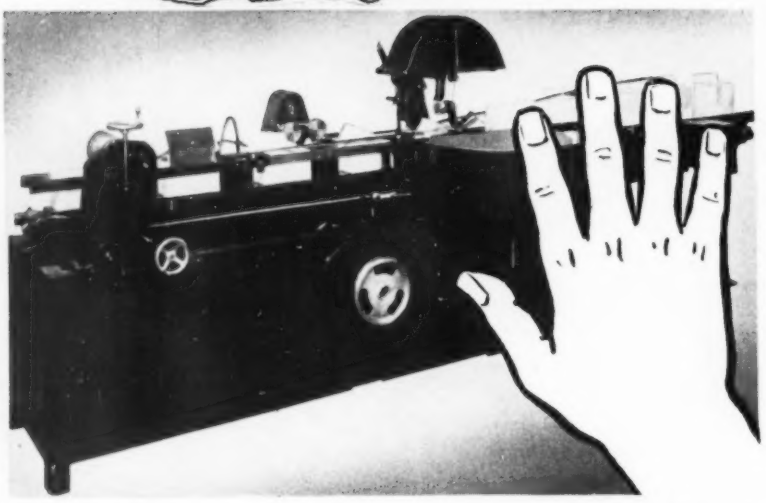
Our designers will gladly study your product and sales situation, then suggest a container for the job. For details, call your near-by Armstrong office or write Armstrong Cork Company, Glass and Closure Division, 5405 Crystal Street, Lancaster, Penna.


Curve label surface in one direction only
Indent label space to avoid scuffing label
Curve face to hold shape better than flat surface

ARMSTRONG'S GLASS CONTAINERS

glass that performs . . . packages that sell

Peters Packaging Idea ...



Here's a packaging machine 'Manufacturer X' wants to keep for himself!

Manufacturer X' recently purchased a new Model CCY Peters Carton Folding and Closing machine. He is using it in a packaging operation which was previously impractical.

Recently we asked him if we could talk about his example of success with this Peters machine. His answer was, "We'd rather you wouldn't. We don't want to deliberately give away our 'discovery' to competitors."

We still cannot say here who this manufacturer is, but we can say this: His experience can be yours. It certainly pays to investigate this high speed Model CCY Peters Packaging Machine for folding and closing hinged, top-opening cartons.

Write, wire or call for all the facts. Do so soon.

Peters MACHINERY COMPANY
4712 Ravenswood Avenue
Chicago 40, Illinois

For your information

tion in St. Louis, June 9-11, at the Jefferson Hotel. Technical sessions will be held at Kiel Auditorium. Registration blanks and information are available from **U. C. Gramsch,** Registrar, 8th Annual A. S. Q. C. Convention, P. O. Box 4436, Wade Station, St. Louis 15, Mo.

To allow for better coordination of functions and more direct service to its membership, a change has been made in the organization of the **Folding Paper Box Assn.** staff. **Harold H. Worth,** formerly Pacific Coast representative for the association, has been transferred to Chicago to serve as assistant executive director. **Martin C. Badger** replaces Mr. Worth as Pacific Coast representative.

A new book which packagers may have occasion to use for background material on the history of packaging and merchandising, "The Old Country Store" by **Gerald Carson,** has been published by the Oxford University Press. The book is rich in personalities, anecdotes and folklore of the cracker-barrel era. MODERN PACKAGING's *Hall of Fame* articles and the historical material in *Modern Packaging Encyclopedia* provided numerous references to source material treated in this publication.

Fulton Bag & Cotton Mills has issued an illustrated booklet outlining a series of helpful tips concerning the care and storage of Fulton multiwall paper bags. The booklet "Safe Storage Tips for Multiwall Paper Bags" is available by writing, on company letterheads, to Fulton Bag & Cotton Mills, P. O. Box 198, New Orleans 3, La.

According to the **Waxed Paper Merchandising Council, Inc.,** Chicago, a merchandising council has been created by leading manufacturers of waxed paper to promote the use of waxed paper and particularly the use of waxed bread wrappers. A national campaign in behalf of bread wrapped in waxed paper was launched April 12, with plans for special ads to appear in *Life* magazine and 88 newspapers. Complete promotion kits are available to help direct the campaign to individual markets.

The Sheffield Tube Corp. has published a new 1954 catalog on Sheffield collapsible tubes and collateral services. Copies may be had from Sheffield Tube Corp., 170 Broad St., New London, Conn.

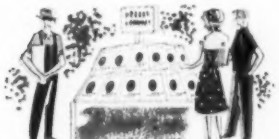
In its "Manual of Excellent Managements," the **American Institute of Man-**

10 LBS. NET
BITA-VITA
FOR
SWINE
VITAMIN
ANTIBIOTIC
TRACE
MINERAL
DIRECTIONS. MIX AT THE RATE OF ½ POUND TO THE HUNDRED OR 10 POUNDS TO THE TON FOR A 14% TO 16% PROTEIN HOG FEED. MIX 20 POUNDS TO THE TON IN A 30% TO 40% PROTEIN HOG CONCENTRATE.
Manufactured by
BIG GAIN PRODUCTS
Mankato, Minnesota
This is a 4-lb. Sample of
PURINA TURKEY STARTENA
On the Purina Program:
Five weeks' feed for one poult
2 lbs. of turkey
Now 28% protein
.33 lb. more turkey at 5 weeks than in 1952
Extra turkey value 4¢ losing 45¢ a lb. selling price!
Extra feed value per bag $1
Manufactured by
RALSTON PURINA COMPANY
10 LBS. NET
Archer
Super-Start
Super-treated with
BOOSTRYN
Manufactured Exclusively by
ARCHER-DANIELS-MIDLAND CO.
General Offices: Minneapolis, Minnesota

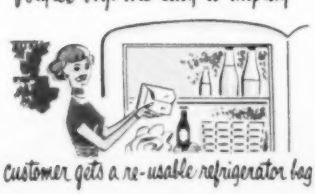
these feed manufacturers

are increasing sales with CHASE Polytex packaging

customers buy what they see



Polytex bags are easy to display



customer gets a re-usable refrigerator bag

Feed, food, fruit, frozen fowl—the variety of goods packaged in Chase POLYTEX grows daily. The reason is simple—Chase POLYTEX does a terrific selling job. Transparent Chase POLYTEX shows *all* of your product, glamorizes it, makes it look more important. Tough, elastic and easily closed—POLYTEX bags assure maximum product protection. It's easy to display...gives you sharp, clear colorful brand name printing.

WRITE FOR SAMPLES OF PRINTED BAGS AND CURRENT PRICES.
Address inquiries to Dept. 33 E.

CHASE BAG COMPANY
POLYTEX DIVISION

5033 Southwest Ave.
St. Louis, 10, Mo.

4900 Corona Ave.
Los Angeles, 48, Calif

THE FIRST NAME IN THE PAPERBOARD FIELD

You get "something extra" at BUTTERFIELD-BARRY

...We invite you to share the experience and facilities we have developed over the past 100 years as converters and distributors of all types of

Paperboard for Set-up & Folding Boxes

To you this will mean "something extra"—in better products, better service and greater profit... and you will enjoy that feeling of security you get when dealing with "the first name" in the paperboard field.

You can rely upon BUTTERFIELD-BARRY to extend every effort to solve your paperboard problems and give you "something extra."

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A Century of Progress in Paperboard for Packaging and Marchandising

Carefully Controlled

CONTRACT PACKAGING

by Fischer-Wehmann

strip packages
catch covers
flexible packages
bottle filling
powder filling
heat sealing
inserting
collating
assembling

drugs • foods • novelties • cosmetics

Manufacturers who use Fischer-Wehmann's service free themselves, once and for all, from problems connected with packaging their products. Fischer-Wehmann packages, inspects, cartons, ships. Every phase of our operation is supervised and controlled to maintain highest standards of quality and service. Our efficient, automatic equipment keeps costs at rock-bottom.

Let us know your packaging requirements and we will promptly submit an estimate.

FISCHER-WEHMANN CORPORATION

4916 Hudson Boulevard West New York, N. J. Union 3-8954

For your information

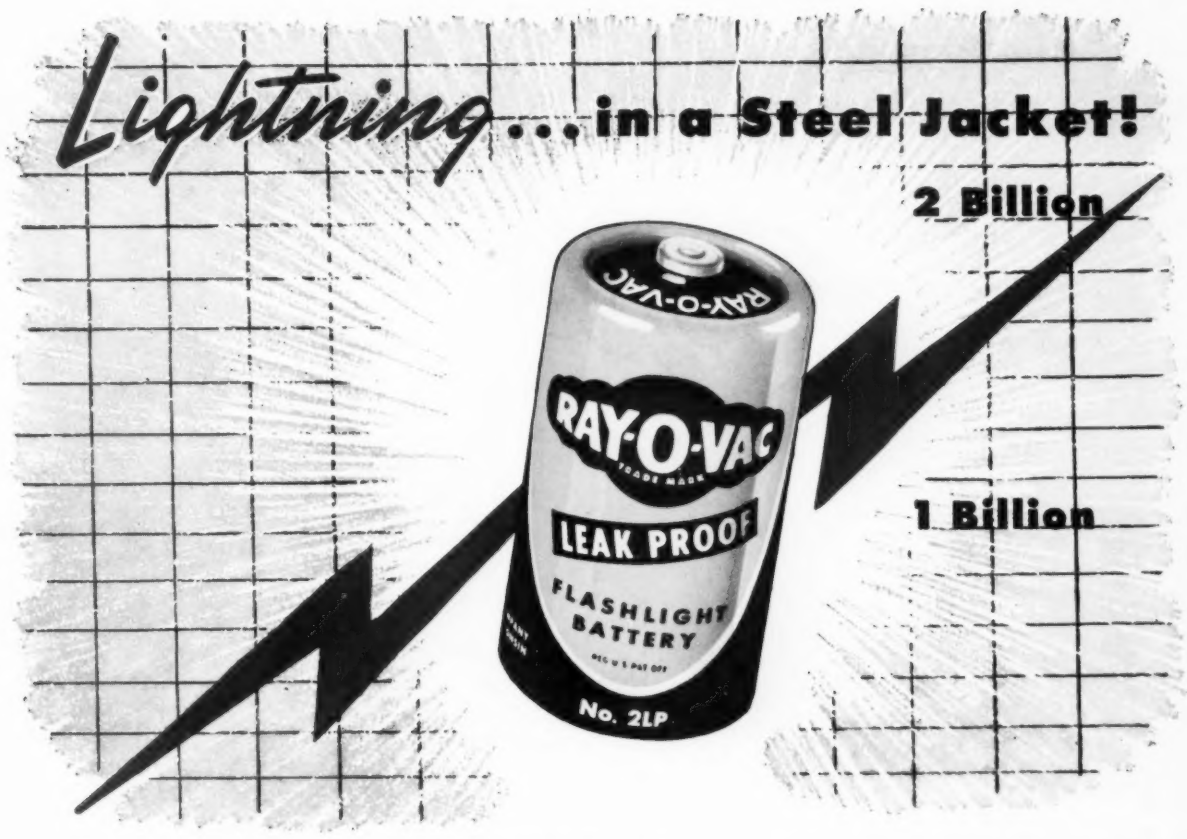
agement named the top 348 industrial organizations in the United States and Canada for the year 1953. Included in the group are: **Aluminum Co. of America, American Can Co., American Cyanamid Co., American Viscose Corp., Anchor Hocking Glass Co., Armstrong Cork Co., The Borden Co., Celanese Corp. of America, Champion Paper & Fibre Co., Container Corp. of America, Continental Can Co., Dow Chemical Co., E. I. DuPont, Eastman Kodak, Hinde & Dauch Paper Co., Kimberly-Clark Corp., Lynch Corp., Marathon Corp., Minnesota Mining & Mfg. Co., Monsanto Chemical Co., Olin Industries, Inc., Owens-Illinois Glass Co.** Copies of this 96-page book are available from The American Institute of Management, 125 E. 38 St., New York 16.

The Bakelite Co. has issued a new 40-page reference booklet entitled "Bakelite Plastics—Vinyl Rigid Sheets," containing technical data on the forms, properties, fabrication techniques and applications of Bakelite vinyl plastic rigid sheets. Copies of the booklet (S-1) are available from Bakelite Co., Div. of Union Carbide & Carbon Corp., 300 Madison Ave., New York **17.**

A two-volume revised "Handbook of Early American Advertising Art," by **Clarence P. Hornung** (Dover Publications, Inc.; $10 a volume and $17.50 for the two-volume set) contains more than 3,800 illustrations and type specimens selected mainly from Colonial and 19th century American advertising art.

The American Can Co. awarded seven four-year college scholarships in April to six children of employees and one young employee in Canco's four divisions. In addition to the tuition, the company makes a $500 contribution a year to the selected institution for each student enrolled under the scholarship program.

The Society of Industrial Packaging & Materials Handling Engineers has appointed **Jack L. Ware** of American Excelsior Corp. as general chairman of the **Ninth National Industrial Packaging & Materials Handling Exposition** to be held in Chicago Sept. 28-30. Chairman of the Short Course will be **Walter J. Byrd** of Standard Brands, Inc., with **Louis S. Beale** of the Wirebound Box Mfrs. Assn. as vice chairman. Competition chairman is **Ray Mantz** of International Harvester Co. The 1954 Short Course program is being developed in cooperation with the



Over TWO BILLION Steel Jackets and Tops Made by J. L. Clark for Ray-O-Vac

How many are TWO BILLION lithographed steel jackets and tops for Ray-O-Vac LEAK PROOF brand batteries? . . . Enough to circle the earth twice, almost, if you laid them end to end. Enough to equal the weight of 312 steam locomotives, if you total the steel they used! You could count 24 hours a day for a lifetime and never approach 2,000,000,000. Yet this astronomical number of components for the famous Ray-O-Vac battery has come from J. L. Clark's smooth flowing production lines!

It all started when Ray-O-Vac came to J. L. Clark with the question: Could *steel* jackets and tops be produced — *economically* — for a new kind of battery that was guaranteed against leakage, swelling or corroding, ending forever the scourge of flashlight damage? And the answer has come, 2 billion times, in the famous cell now known the world over as "sheathed in steel."

Clark Complete Metal Packaging Service provided the answer . . . developed ways to lithograph and fabricate steel battery components at a price permitting Ray-O-Vac to meet competition using less costly materials. It took *new* ideas to do this . . . new tools and techniques of fabrication . . . special provisions to insure unusual accuracy. It took the same kind of creative engineering that J. L. Clark has applied to other manufacturers' problems for half a century.

If *you* have a problem in product packaging, we suggest you remember this story — and remember, too, that J. L. Clark lithographed metal containers carry a wide variety of products — from baby powder to water color paints . . . from ointments to cellophane tape or razor blades, and a host of others. Why not write *today* for information on packaging tailored to your specific needs?

J. L. CLARK MANUFACTURING COMPANY, ROCKFORD, ILLINOIS

J. L. Clark

LITHOGRAPHED METAL CONTAINERS

OUR 50th YEAR OF QUALITY • 1904-1954

Reach!

No, it's not the command of your favorite private eye. It's the simple, dignified, eye-filling request of an H-A glass container to be removed from the dealer's shelf.

Every H-A glass container—stock design or special mold—is planned with "Buy Me Appeal"; planned by experts who are interested in all your packaging problems, sales as well as processing. Cap it with an H-A lithographed closure, and your glass sales package is complete.

HAZEL-ATLAS GLASS COMPANY

Wheeling, West Virginia

For your information

Mechanical Engineering Dept. and the Div. of University Extension, University of Illinois.

Tamco Industries, Inc., has issued a new four-page illustrated folder outlining its Tamco Hydro-Vacumatic vacuum-forming machine. Copies may be obtained by writing Tamco Industries, Inc., 290 Broadway, Huntington Station, Long Island, N. Y.

The Champion Paper & Fibre Co. has been awarded a "Joshua" in the second annual contest sponsored by the **Match Industry Information Bureau** as having contributed the best match-book advertising design in the paper and pulp classification. Champion's winning design, developed by **Elsa Wehr**, assistant advertising manager at Champion, in conjunction with **Richard Werth** of **Universal Match Corp.**, features the company trademark and is made of Champion's cast-coated brand Kromekote.

The Packaging Institute has elected **Henry M. Wogisch** of L. Sonneborn Sons, Inc., as chairman of the Petroleum Committee, succeeding **A. Douglas Murphy** of Esso Standard Oil Co.

Sixteen members of PI's Drug & Pharmaceutical Committee were guests of the **Ivers-Lee Co.**, Newark, N. J., recently, with **Lloyd I. Volckening**, president, acting as guide and host on a tour of two of the company's unit-packaging plants. The committee also toured **White Laboratories**, Kenilworth, N. J., as guests of **James DeCesare**, president.

George V. Johnson has joined the staff of the **American Paper & Pulp Assn.**, to handle industrial relations and other association activities.

The second **Drupa International Print & Paper Fair** is scheduled for May 15-30 in Dusseldorf, Germany. There will be more than 700 exhibitors, including over 100 from the United States, Great Britain, France, Belgium, Denmark, Holland, Italy, Austria, Sweden, Switzerland and Finland. More than half a million visitors are expected to attend.

Cleveland super market executives will spearhead activities of the forthcoming 17th annual convention of the **Super Market Institute**, to be held at the Cleveland Public Auditorium, May 23-26. The convention will bring together an estimated 12,500 super market and food industry executives from the United States, Canada, Mexico and Hawaii.

What does this mean to you?

If you have any responsibility for your Company's profits, it would pay you well to examine carefully the daily habits of your shipping department with respect to closure methods.

Do you realize that, last year, shipping losses exceeded $100,000,000? How much of this colossal waste was yours? How much added loss was reflected to your Company in lost goodwill and customers through failure of merchandise to arrive safely at destination due to improper closure methods?

stop this waste in your business

with GST*

Shipping losses are caused in large part by faulty closures. Recent, impartial tests of the six most widely used closure methods prove overwhelmingly that ***Gummed Sealing Tape** SHIPS BEST. ***Gummed Sealing Tape** has been proving its superiority in actual shipping performance for years. The use of ***Gummed Sealing Tape** on cartons is recognized and recommended by all carriers.

If your shipping department is not getting the full benefits of this safest form of closure, it will pay you to make sure the men there learn that

Gummed Sealing Tape Guarantees Safest Transit

We will be glad to send to your shipping head the results of tests on the various closure methods, and full details concerning the qualities and application of Gummed Sealing Tape. There's a brochure for executives, too, which will interest you. Please check the material you wish. Use the coupon below.

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11 WEST 42nd STREET, NEW YORK 36, N. Y. MP-5

☐ Please send me the Gummed Sealing Tape "Brochure for Executives."
Name.....Title.....

☐ Please send test results and other shipping data to:
Name.....Title.....
Firm Name .....
Address.....
City.....Zone.....State.....

U. S. patents digest

This digest includes each month the more important patents of interest to those who are concerned with packaging materials. Copies of patents are available from the U. S. Patent Office, Washington, at 25 cents each in currency, money order or certified check; postage stamps not accepted. Edited by H. A. Levey

Machine for Erecting Double Side Walls on Double-Walled Cartons, J. D. Behl (to Sutherland Paper Co., Kalamazoo, Mich.). U.S. 2,669,167, Feb. 16. A machine for folding and erecting inner side walls on a partially erected carton having erected end walls and outer side walls with inner side wall forming flaps extending as continuations above outer side walls comprising a conveyor having flights adapted to advance the cartons in endwise fashion.

Blade Dispensing Magazine with Used-Blade Compartment, C. L. Metzler (to The Gillette Co., a corporation of Delaware). U.S. 2,669,348, Feb. 16. A blade magazine comprising a shell of rectangular outline having end exit slots and a bottom with elevated end areas and an intermediate well providing a used-blade compartment with an inlet slot at one end of well and a bowed spring resting with its ends on elevated areas, bridging the well and providing separate compartments within the shell for used and unused blades.

Package for Liquids, C. M. Carson and J. E. Snyder (to The Goodyear Tire & Rubber Co., a corporation of Ohio). U.S. 2,669,351, Feb. 16. A package which includes a stiff container and in it a liquid-filled, pillow-shaped rectangular pouch of flexible material, the pouch being constructed with top and bottom walls united without any intervening wall and being sealed along one edge.

Machine for Packing a Predetermined Weight of Bulk Product, E. H. Carruthers, Warrenton, Ore. U.S. 2,669,378, Feb. 16. A machine for packing a substantially constant weight of material into each of successive containers presented in a filling position comprising: means for forming the material into an elongated structure of a predetermined desired shape, means for moving the structure toward the container filling position while it is being formed and a pair of cut-off devices located adjacent the container filling position.

Paper Bag Having Flap with Reinforced Locking Tongue and Ticket Retainer, G. W. Poppe (to Equitable Paper Bag Co., Inc., Long Island City, N.Y.). U.S. 2,669,382, Feb. 16. A bag having opposed walls defining a mouth and a flap extending from one of the walls and foldable down over the other wall to close the mouth, the bag walls having an opening and the flap having a transverse fold line on which the flap folds double on itself, the flap long enough to overlap opening when flap is thus doubled.

Tape-Dispensing Mechanism with Knife-Guarding Means, A. P. Krueger (to Derby Sealers, Inc., Derby, Conn.). U.S. 2,670,041, Feb. 23. A tape dispenser comprising a casing having an opening through which the tape is drawn, a severing blade supported by casing adjacent the opening, a guard for the blade having a free end normally extending through opening between the blade and the tape to cover the blade.

Feed Control for Tape-Dispensing Devices, A. P. Krueger and O. P. Erhards (to Derby Sealers, Inc., Derby, Conn.). U.S. 2,670,043, Feb. 23. A mechanism for dispensing pressure-sensitive tape, comprising means for supporting a supply roll of tape, feeding mechanism for drawing tape from roll by engagement therewith and electric motor for driving feeding mechanism.

Stacked Neckbands, F. E. Monks (to Fuller Label & Box Co., Pittsburgh, Pa.). U.S. 2,670,076, Feb. 23. An article of manufacture comprising a stack of preformed conical neckbands for bottles in loosely nested relation without complete wall-to-wall contact to allow independent movement of each band, said bands being formed of foil-like, thin-walled, flexible and deformable material, and means for restricting rotational and axial movement to maintain the loosely nested condition of the neckbands including a single strip of pressure-sensitive adhesive material extending axially along the outside surface of the stack from the base of the stack to the lower portion of the skirt.

Closure Means for Containers, G. Strickland (to American Flange & Manufacturing Co., Inc., New York, N.Y.). U.S. 2,670,097, Feb. 23. In a closure means for containers, a container having an opening in the top thereof formed of a plurality of annular formations extending downward and inward from the top thereof, a gasket suitably seated with respect to annular formations, having cams being formed on the lowermost of annular formations, a closure comprising a stopple portion and tightening means.

Can Filling Machine, W. J. Dobbins, 3rd (to American Can Co., New York, N.Y.). U.S. 2,670,114, Feb. 23. In a machine for packing meat or other sticky products into containers, the combination comprising a conveyor member, a packing plunger having a product-contacting face, said plunger being mounted for reciprocation in conveyor and movable by conveyor in a predetermined path.

Apparatus for Crowning Containers under Vacuum, J. Kantor (to The Liquid Carbonic Corp., Chicago, Ill.). U.S. 2,670,117, Feb. 23. A crowning head having a crown throat at its lower end; a crown crimping means arranged in throat, said throat having a crown-receiving aperture in the side wall thereof; a centering bell rigidly supported from head below throat and having a central container neck-receiving opening therein and an annular crown rest surrounding opening and disposed beneath said throat.

Corner Pad, G. W. Davidson, A. M. Kupfer and C. B. Kilmer (to Container Corp. of America, Chicago, Ill.). U.S. 2,670,122, Feb. 23. A corner protector pad composed from a single rectangular piece of corrugated paperboard differentiated by scores and slots into eight panels arrayed in two side-by-side series of four panels each with each panel of each series opposite to a panel of the other series and with opposite panels of substantially equal corresponding dimensions.

Carton, W. P. Frankenstein, Cincinnati, Ohio. U.S. 2,670,123, Feb. 23. In a carton having bottom panel, side walls from two opposed edges of the bottom panel, each side wall including inner, outer, top and bottom wall members with the inner wall members integrally, hingedly connected with the bottom panel to upstand therefrom and with inner and outer wall members spaced from one another by the top wall member.

Carton, W. P. Frankenstein, Cincinnati, Ohio. U.S. 2,670,125, Feb. 23. In a carton formed of a single blank of card- or paperboard material, a bottom, extensions from two opposed sides of bottom, one extension being subdivided into panels to form a side wall including an outer and an inner wall member, the other extension being subdivided into panels to form a second side wall and platform including an outer wall member, an inner wall member and a platform.

Carton, W. P. Frankenstein, Cincinnati, Ohio. U.S. 2,670,126, Feb. 23. In a carton formed from a single blank compromising a main panel, extensions from each side of the main panel, forming the walls of the carton, with each extension subdivided into panels constituting an outer wall member, a top wall member and an inner wall member, each top wall member of each extension having an effective length greater than the inner wall member of its extension and each top wall member having a width greater than the width of the inner wall member.

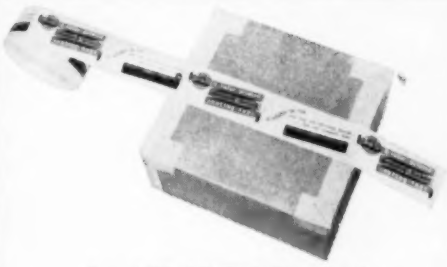
Folded End-Panel Carton, A. W. Gleason and H. M. Bowles (to California Research Corp., San Francisco, Calif.). U.S. 2,670,127, Feb. 23. A single blank of foldable material for forming an hexagonal carton comprising a body portion having six side panels and a side closure flap for forming the six sides of carton, said side panels and flap being defined from one another by score lines, top forming panels extending outwardly from each of side panels and flap and defined therefrom by a score line extending the width of said blank, score lines forming an isosceles triangle in alternate top panels with the base of triangle defined by the side panel scores lines and the top panel score line.

Carton, F. H. Stowitts (to Michigan Carton Co., Battle Creek, Mich.). U.S. 2,670,128, Feb. 23. A carton comprising front, rear and side walls having end closure members hingedly con-

Picture YOUR Packages
with Your OWN Colorful
"SEAL OF DISTINCTION"

4 Color Printed Kraft Gummed Sealing Tape

On-to-Sta



An ATLANTIC Product
"Sticks to the Last"

4 Points to remember about On-To-Sta 4 Color Sealing Tape

- ★ Every carton and package leaving your plant carries your 4-colorful advertising message everywhere.
- ★ Your packages are padlocked with your company's name —they're pilferage proof. Dust and dampness are locked out.
- ★ On-to-Sta tape is of uniform top quality. It seals securely and remains perfectly flat.
- ★ Our creative art staff will skillfully prepare art work for 4-color tape to fit your particular needs.

Ask your local jobber about
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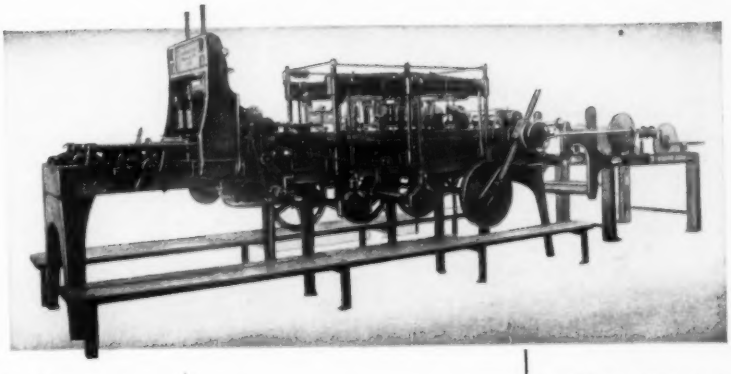
INMAN TRAY MACHINE FOR SET-UP BOXES



When dependable output must be coupled with flexibility and rapid changeover, it is a perfect situation for the No. 9 Adjustable Die Tray Machine.

Working from a roll of the proper width, it dies out, creases, pastes, and sets-up one piece at a time. Production: 30 pieces per minute. A solid die version of this machine will turn out up to 75M pieces per eight hour day, depending on box size.

Size range:

Depth — 1" to 4½"
Width — 6" to 12"
Length — 10" to 20"

Specifications:

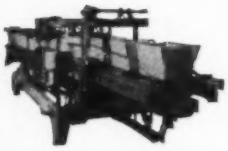
floorspace	5' x 20'
horsepower	3
driving pulley:	diam. 20", face 5"
pulley speed	120 R.P.M.
weight	14,000 pounds (crated)

Designed, built, and guaranteed by Inman, manufacturer of fine boxmaking machines for over seventy-five years.

Full details on request

INMAN Manufacturing Co. Inc.
AMSTERDAM, NEW YORK

Exclusive



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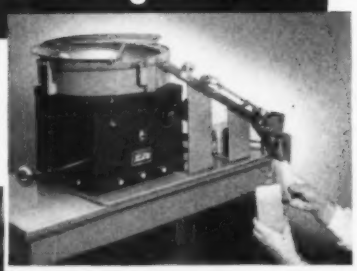
Counting and Filling Machine

Semi-automatically counts and fills small nails and screws at low cost.



Operator presses envelope against discharge tunnel to release pre-counted items. Foot switch controls the screws entering counter channel.

Save manuel labor costs by packeting small screws, nails and similar items semi-automatically — up to 35 packets per minute. The Vibracount is easy to operate, compact, mounts on bench or table. Rapid—accurate—economical!

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BROWN Bag Filling Machine Co., Inc.
FITCHBURG, MASS., U. S. A.

U. S. patents digest

nected thereto at one end of the carton, the closure member of the front wall constituting an inner closure member, the closure member of the rear wall constituting an outer closure member, the closure members of the side walls constituting intermediate closure members, the hinged connection of the inner closure member to the front wall being dispersed inwardly of the hinged connections of intermediate closure members to side walls.

Bag-Making Machine, L. Moravec and A. Gans (to Roto Bag Machine Corp., New York, N.Y.). U.S. 2,670,783, March 2. In a machine for making plastic bags, means for moving a continuous web of plastic material through the machine at a substantially constant speed, a rotatably mounted cylinder having a resilient outer covering and positioned so that said material passes partially around said cylinder in contact with the surface thereof.

Blade Dispensing Package, J. Muros (to The Gillette Co., a corporation of Delaware). U.S. 2,670,841, March 2. A blade dispensing package comprising a body portion and a cover secured in hinged relation to the body portion by connecting webs, the webs being spaced apart to provide a blade dispensing aperture, the body portion and cover being further formed with a centrally disposed blade exposing slot which communicates with the blade dispensing aperture.

Bottle Cap, J. R. L. Martin (to Coty, Inc., Wilmington, Del.). U.S. 2,670,869, March 2. A bottle sealing device comprising a substantially hollow cap of rigid material, a central projection depending downwardly within cap and an internal plug having a central recess engaged by said projection, said plug being of resilient material relative to said cap and being hollow.

Apparatus for Producing Enwrappments in Series, C. W. Vogt, Norwalk, Conn. U.S. 2,671,382, March 9. Apparatus for producing a connected series of individual articles from a web which comprises a member movable in an endless path, means to advance a web to said endless path, a plurality of juxtaposed elements carried by the member and means to mount the elements movably in a retracted position on the movable member; means operated in timed relation to the movable member to actuate the web-severing means while the elements project outside the endless path, means to restore the elements sequentially to the endless path whereby adjacent portions of the severed web will overlap, means to press overlapped portion of web together.

Blade Dispenser with Used-Blade Compartment, M. J. Shnitzler (to The Gillette Co., a corporation of Delaware). U.S. 2,671,-535, March 9. A blade dispenser comprising a rectangular body portion having a bottom partition formed with an external well and upright side walls each having a longitudinal downwardly open channel near its lower edge.

Collapsible Tube with Easily Rupturable Neck Diaphragm, F. Remington and R. A. Tartaglia (to Peerless Tube Co., Bloomfield, N.J.). U.S. 2,671,577, March 9. A collapsible tube having a discharge neck and having a thick wall and a relatively thin integral perforable diaphragm closing said neck and formed with a radial zone of thickness substantially less than the thickness of the diaphragm between radial zones.

Folding Box Packer and Carrier, H. S. Taylor, Jr. (to F. M. Howell & Co., Elmira, N. Y.). U.S. 2,671,584, March 9. Box packer and carrying receptacle for fragile articles comprising a one-piece rectangular blank downfolded from its transverse center line and upfolded from transverse lines equidistant from center line, the upfolded portions providing extensions extending beyond apex of dihedral angle formed by downfolded portions.

Bag-Filling Machine with Slidably Mounted Bag-Clamping Means, H. V. Kindseth (to Bemis Bro. Bag Co., Minneapolis, Minn.). U.S. 2,671,585, March 9. In combination with a packer for packing flour and the like into flexible-walled bags, packer comprising a packer tube having its upper end connected to a hopper or bin, the diameter of the tube being relatively less than the diameter of the bag top when said top is expanded.

Bag Closing and Sealing Apparatus, C. W. Vogt, Norwalk, Conn. U.S. 2,671,586, March 9. An apparatus for supporting, closing and sealing a pair of bags connected together at their upper open ends and having thermoplastic material at open ends, said apparatus including a base and a horizontal bar portion formed thereon for engaging the underside of the connection between the bags and holding the bags upright with their open ends in spaced relation during filling.

Bag-Filling Machine, C. W. Vogt, Norwalk, Conn. U.S. 2,671,-

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(...if you're a packager)

Wise packagers do their Christmas planning months ahead. And among the wisest of the wise ones, a discerning number pivot their gift and special promotions around folding cartons and set-up boxes made with lustrous Artcote papers and boards.

These effective gold, silver, copper and pastel pyroxylin metallic coated stocks lend themselves to seasonal decorating in all colors, by *any* printing method. They "work" easily. There's a weight and style that matches your requirements.

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ARTCOTE PAPERS INC.

Irvington, New Jersey

U.S. patents digest

587, March 9. An apparatus for filling bags which are connected together at their upper ends as a chain and by means of flexible strip material connected to the bags adjacent to their upper ends, said apparatus having means for engaging said strip material and thereby supporting said bags in an upright position, means for engaging strip material for advancing the bags along the supporting means and means along the path for delivering predetermined amounts of material to said bags.

Paired Bag-Filling Machine, C. W. Vogt, Norwalk, Conn. U.S. 2,671,588, March 9. A machine for filling prefabricated bag means connected together in a chain by a pair of tapes one on each of the outer faces of said bag means, said machine having mounted thereon means for filling bags, means for engaging continuous tapes secured to the outer faces of the bag means and feeding the tapes and bags upwardly and at an angle to the vertical in the direction of the filling means.

Container with Flat Top and Integral Overcap. R. C. Taylor (to American Can Co., New York, N.Y.). U.S. 2,671,596, March 9. A fibre container for liquids, comprising a tubular body terminating at its upper open end in an outwardly projecting coplanar peripheral ledge, a separate substantially flat end member of integral inner and outer layers secured to open body end, the inner layer of separate end member being substantially co-extensive with and permanently adhesively secured at its marginal portions to the outer surface of body ledge to constitute therewith an outwardly projecting end beam and having an integral overcap extension superposed over the inner layer to cover and protect the entire opening from contamination.

Shipping Container, J. P. H. Leavitt (to Container Corp. of America, Chicago, Ill.). U.S. 2,671,597, March 9. In a shipping container, a tubular paperboard liner closed at one end and open at its other end, a paperboard end-cover section open at its inner end and fitting over and about said liner exteriorly and from said other end thereof, cover section comprising a body portion and a cap fitting in the outer end of body portion.

Corrugated-Board Box Construction, J. Rosen, Philadelphia, Pa. U.S. 2,671,598, March 9. A box having a bottom wall and a pair of opposite side walls interconnected by a pair of opposite end walls disposed at right angles to said side walls and having a pair of separately formed, removable internal liners.

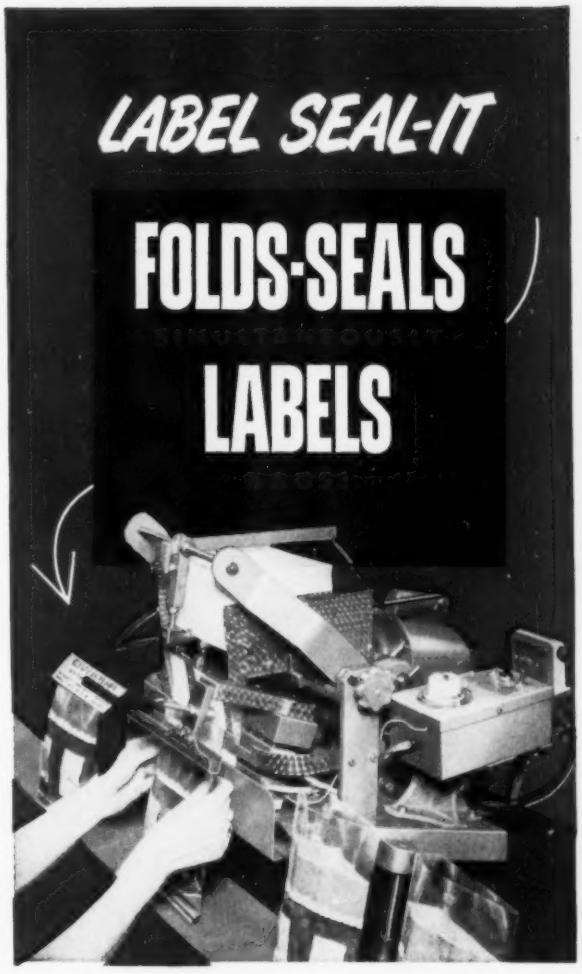
Shipping Container, J. P. H. Leavitt (to Container Corp. of America, Chicago, Ill.). U.S. 2,671,600, March 9. A paperboard shipping container comprising a lower cover section rectangular in plan, open at its upper end and having closure means at its lower end, a one-piece reinforcing end cap fitting tightly within the lower portion of cover section comprising a panel coextensive with and seating said closure means.

Shipping Container, J. P. H. Leavitt (to Container Corp. of America, Chicago, Ill.). U.S. 2,671,601, March 9. In a paperboard shipping container, a lower four-panel cover section rectangular in cross-section, an end closure for one end of the cover section, a first U-shaped liner part having three vertically extending, hingedly interconnecting panels fitting snugly against the interior surfaces of three adjacent vertical walls of the cover section and extending thereabove.

Chain of Bags, C. W. Vogt, Norwalk, Conn. U.S. 2,671,602, March 9. A bag chain comprising a plurality of pairs of bags, each bag having a front wall, a back wall and an open end, said back wall having a closure flap thereon extending beyond the adjacent edge of the front walls, means detachably connecting the bags of each pair to each other with their back walls in opposition and means detachably connecting the closure flaps only of each pair of bags to the opposite ends of bags of another pair to position the bags in end-to-end relation in two rows in which all of the bags are detachably connected.

Metering Device for Tape Dispensers, A. C. Hummel, Cincinnati, Ohio. U.S. 2,671,659, March 9. In a tape dispenser wherein a shaft is rotated to dispense the tape in a length proportional to the degree of rotation, tape metering means comprising a radially projecting arm immovably mounted on the shaft and terminating in an abutment which sweeps in a curved path upon rotation of the shaft.

Commodity Package, C. W. Vogt, Norwalk, Conn. U.S. 2,671,731, March 9. A package for food products which comprises a relatively flexible wrapper enfolded about the contents, two opposite edges of wrapper forming a seam extending longitudinally along one face of the package, face of package being sealed.



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Problem: To package and display material with sharp points and cutting edges, and keep the material in the package.

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Converters of VISQUEEN film are expert in solving the most baffling packaging problems. They command the technical skills and tremendous backlog of packaging know-how that is VISKING. The coupon will bring names of those serving your area. Let them help you to better packaging.

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Prize winners in 4th Lithographic Awards Competition

Winning entries in the 4th Lithographic Awards Competition and Exhibit, sponsored by the Lithographers National Assn., will be on exhibit at the Hotel Biltmore, New York, May 7-14. This initial showing includes a record-breaking number of 252 prize-winning pieces chosen as the finest offset lithography produced in 1953 from the more than 1,600 entries in 44 classifications of diversified material. The winners will also be displayed at the LNA convention at White Sulphur Springs, W. Va., June 7-9, and later will travel for a year to the principal cities for showing under local sponsorship.

First award, Labels.

Among the classifications were three in the packaging field—labels, wrappers and cartons. Certificates of Award were presented to the companies making the products entered and the lithographers responsible for the creation and production of the winners. Following are the first, second and third awards winners in the three packaging-materials classifications.

First award, Wrappers.

Labels. First award, Kent Cigarettes by P. Lorillard Co.; lithographer, The United States Printing & Lithograph Co. Second award, Yellow Bow Canned Foods by Sun Garden Packing Co.; lithographer, The United States Printing & Lithograph Co. Third award, Capitol Album labels by Capitol Records, Inc.; lithographer, The Wickersham Press, Inc.

Wrappers. First award, Cocktail Towels by Marion's Dish Towels; lithographer, Western Lithograph Co. Second award, March-Melodies Octagon by Barricini Candy Co.; lithographer, Brett Lithograph Co. Third award, Masterpieces in Chocolates by Maxfield Candy Co.; lithographer, Western Lithograph Co.

Cartons. First award, Private Stock by Park & Tilford Distilling Corp.; lithographer, The Lord Baltimore Press. Second award, Cherries in the Snow by Revlon Products Corp.; lithographer, The Lord Baltimore Press. Third award, Chesterfield Christmas Scene by Liggett & Myers tobacco Co.; lithographer, Forbes Lithograph Mfg. Co.

First award, Cartons.

Honorable mentions went to Schmidt Lithograph Co. for Monte Cristo Wine labels; to The Wickersham Press, Inc., for Capitol Records album labels; to The United States Printing & Lithograph Co. for Mid-West Foods' tomato-juice labels and Trenton Milling Co.'s cake-mix carton; to Western Lithograph Co. for Royal Kitchen Towels and Kiddie Bathtime Set wrappers by Barth & Dreyfuss; to The Lord Baltimore Press for Helena Rubinstein's Gourielli box wraps, Lentheric men's line cartons and Duncan Hines cake-mix cartons.

Milk cartons and cans hit new high volumes

A record-breaking volume of 9.7 billion paper milk containers—a tenfold gain since 1940—packaged nearly 50% of all beverage milk sold to consumers in 1953, according to a report by American Can Co., New York.

"From the standpoint of mass producing a special type of container for a single product, the paper milk carton is exceeded only by the standard food can," pointed out William F. May, general manager of Canco's fibre milk-container department.

In addition to contributing to the science of distribution and merchandising of milk in America, Mr. May said, the paper container has substantially helped supplier industries. Last year's production, for example, required approximately 325,000 tons of paper and somewhat more than 125,000 tons of paraffin.

Anticipating the continuing trend in greater use of paper milk cartons, the can company has projected increased production facilities in 1954 at key locations across the country. A new plant is being built at Needham, Mass., and production lines are planned for installation during 1954 at existing Canco plants in Maywood, Ill., Stockton and Los Angeles, Calif., and Brooklyn, N. Y.

The increase in the use of paper milk containers, the company said, parallels the merchandising trend of other products in single-trip packages. Twenty years ago approximately 95% of all fluid milk sold as a beverage was delivered to the home. A recent study revealed that in cities of 500,000 or over, 41% of the families now buy all their milk in stores, 44% have it delivered to their homes and 15% buy it both in the stores and through home delivery.

The American Can Co. also reports that industry-wide production of metal cans reached a new all-time high during 1953. D. B. Craver, the firm's vice president for sales, stated that U. S. Dept. of Commerce reports on the short tons of steel consumed in the manufacture of cans during 1953 indicate a record production of more than 35 billion, 600 million containers, estimated on the basis of No. 2 cans. Last year's output of metal containers for all purposes was about 2 billion units more than the year before—an increase of approximately 6.2%, according to Mr. Craver. He attributed the rapid growth in can production to expansion of the food canning industry and impressive gains in the use of metal containers for packaging.

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PRESS-TESTED OFFSET—Finest offset inks for paper lithography and tin printing. Blacker blacks and stronger colors—whites that don't burn out in tints. Backed by IPI fundamental research that made possible high-speed, quality, long-run offset lithography.

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METALLIC—IPI metallic inks make good packages look better. Wise package printers choose IPI gold and silver inks for clean-cut sparkling results. IPI has Anilox and letterpress metallic inks to suit every job.

CARTON & CONTAINER—IPI has inks for all carton and container work—inks that resist fading, scratching, rubbing and deteriorants. IPI Vaposet inks set fast on warm, moist, corrugated board—permit fabrication shortly after printing to speed up overall production.

Vaposet and IPI are trade-marks of Interchemical Corporation.

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Consumer chemicals

(*This article continued from page 119*)

dynamic progress, just as packaging has helped keep soap and detergent sales rising.

Approximately 712,000 lbs. of liquid synthetic detergent were sold by producers in 1948. For the first nine months of 1953, sales were reported by the Soap Association at 58.7 million pounds, with a dollar volume of $21,830,000. The 1953 partial-year production represented 4.2% of the total synthetic sales tonnage.

An early problem in the packaging of liquid detergents was the slipperiness of the bottle. This was overcome with contoured hand-fitting shapes. The original 4-oz. bottles soon gave way to 7-oz. and 12-oz. bottles as the packagers sought to meet the housewife's demand for economy.

Lever Bros. last year stole a march by introducing its new Lux Liquid Detergent[3] in a dripless, solderless can. The package, compact, unbreakable and attractively lithographed, is a worthy companion to the famed Lux Flakes carton. The 12-oz. can, it is said, will wash 2,000 dishes.

Meanwhile, in the dry-detergent field, Monsanto has had tremendous success with its "All" detergent, featuring package sizes that once were considered far too large for the housewife to handle. The latest package is a re-usable 12-qt. galvanized pail holding 25 lbs. of "All." The larger unit of sale reportedly permits a mark-up of about 35% as opposed to the supermarket's 7 to 10%. This unit, implying store delivery and the convenience of telephone orders and "charge it," is obviously designed as a boon to department stores, hardware and similar outlets.

The new "All" package is but one more evidence of the versatility of the package in opening up new outlets and at the same time assuring the producer long-term brand loyalty for his product.

During the last several years there has been an improvement in the chemical formulation of such items as liquid bleach and even the common household product, ammonia, which has now become a sudsy ammonia.

The convenience growth in household items has come right along with the growth in the use of other convenience items in the home such as

[3] See "Dripless, Solderless Can," MODERN PACKAGING, July, 1953, p. 88.

electric mixers, automatic washing machines, steam irons, etc. Manufacturers have recognized the trend toward the development of convenience items for use in the home. Housewives, practically all of whom today are doing their own housecleaning because of the dearth of domestic help, are searching for convenience products to lessen the chore of housekeeping and many of them are little influenced by any cost factors that may be involved.

One measure of the growth in the household packaged-products field can be found in statistics reported by the Glass Container Mfrs. Institute. There were 4,915,000 gross of containers used in 1941 for the packaging of chemical, household and industrial items.

This had grown to 8,580,017 gross by 1953—and 1953 figures represent a 10.2% increase over the 1952 figures. Interestingly enough, this rate of increase is exactly as large as last year's amazing growth rate of the chemicals industry itself.

Summary

The packaging of chemical specialties has been and will continue to be a leader in the development of functional, protective and convenient consumer packages.

The efforts which have been made by this industry to reach new and wider markets on a self-selling-package basis will always be stimulating to the packaging field as a whole.

Chemical specialties include too many classifications and too many products to permit any attempt at representative coverage. Obviously many developments and many important materials and brands have not been mentioned in this article. But almost every chemical package is a protective package, and packagers have traditionally looked to the chemical field for lessons in package preservation and safety. Much credit is due this industry, too, for its packaging methods and one of the most significant facts is that chemical producers as much as anyone have helped teach manufacturers how to make good use of contract packaging when seasonal problems or other production-marketing difficulties make outside packaging desirable.

Package merchandising is and will continue to be the big news in chemical specialties.

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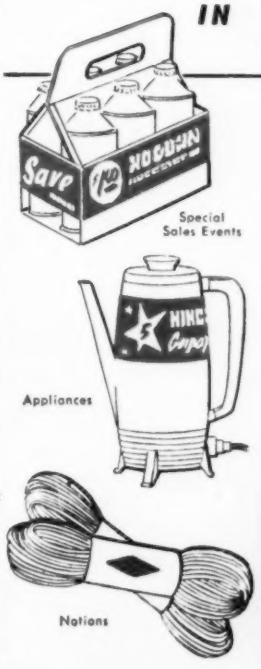

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Patapar resists the penetration of fats, oils and grease just as effectively as it stands up in water. These qualities make it ideal as a food wrapper and for many other uses. And — Patapar is NON-TOXIC.

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Patapar is produced in different types of variations that meet all sorts of exacting requirements. Some of its diversified uses; wrappers for butter, poultry, margarine, ham, bacon, cheese and other moist foods; milk can gaskets; rubber releasing separators; white print translucent masters for direct print machines; dialyzing membranes; in hospitals for wrapping articles to be sterilized in live steam. It is furnished in rolls or sheets, plain or beautifully printed with colorful designs.

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HEADQUARTERS FOR VEGETABLE PARCHMENT SINCE 1885

Packaging up in '54

Business in the consumer containers and packaging industry this year is better than in 1953, according to a report by representatives of the industry at a conference with the Business and Defense Services Adminstration of the Dept. of Commerce.

Spokesman for many individual companies attending the conference indicated that their companies enjoyed an increase in business in February, 1954, over the corresponding month last year.

The conference was called by Secretary of Commerce Sinclair Weeks and the BDSA to discuss any Government-industry problems the conferees elected to present.

Easy-open cigarettes

(*This article continued from page 109*)
worked since 1936 to perfect it.

Announcement of the new package was made by O. Parker McComas, Philip Morris president, to coincide with the opening of the National Assn. of Tobacco Distributors convention in Chicago. Preliminary market tests were conducted in Scranton, Pa.; Greenville, S. C.; Roanoke, Va.; and Springfield, Mass.

The new package feature is the highlight of all current Philip Morris advertising—TV, radio, newspaper, magazine and point of sale.

Salesmen have been armed with full-color sales promotion and point-of-sale aids illustrating the new opening feature, available to all dealers. A full-size window poster has a color photo of Johnny Philip Morris zipping off the new top, accompanied by three drawings showing how to open the package. The first is captioned, "Zip the Tape"; the second, "Snap It Open," and the third illustrates how easily the package may be reclosed after use. Easels have been constructed for adapting the posters to in-store display and the same color and copy motif is being used for half-size window posters and for combination shelf-talker and carton cards.

CREDITS: *"Snap-Open" packaging attachments, owned and licensed by Pull-Packaging, Inc., 1724 W. Indiana, Philadelphia, and built by American Machine & Foundry Co., 511 Fifth Ave., New York 17. Cellophane tabs and collaboration on engineering research by Flex-Vac Div., Standard Packaging Corp., 551 Fifth Ave., New York 17.*

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✓ WRAPS ✓ LABELS ✓ CODES

and

SELLS
YOUR PRODUCT...FAST!

Two beautiful packages wrapped on the WRAP-KING.

Cut packaging costs . . . improve the appearance of your packages . . . and increase sales.

Whatever the shape, Round — Square — Oval — or irregular; all neatly wrapped, labeled and coded in ONE operation.

Write for details on how WRAP-KING can be tailored to fit your needs.

Wrap-King

HOLYOKE, MASSACHUSETTS

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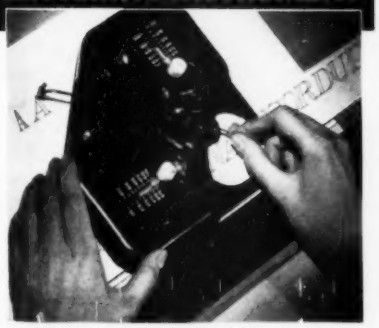
LETTERING INSTRUMENT



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has cast aluminum frame, shaped to fit hand; convenient trigger raises and lowers anvil; capacity is thickness up to ½"; horizontal glass covered 3" diam. dial graduated 1/1000ths of an inch. For use throughout the plant or when traveling. Extremely accurate; direct reading; no computing. Spherical end anvils available on order. $65.00, F.O.B. Chicago, Illinois.

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Standard Gauge

Registers thickness to 5/16"; available with 4, 7, 12 or 18" throats. Horizontal, glass covered dial is 6" diameter; graduations 1/1000ths or .005 inch.

CADY
Dead Weight Mike

Dead Weight Anvil descends by gravity for extremely uniform pressure and completely accurate calipering. 6" diameter glass covered dial with 1/1000ths or .005 graduations.

Standard Model: $110.00; Dead Weight Model: $126.50, F.O.B. Chicago, Illinois

Write for data and prices: Burst Strength Testers, Basis Weight Scales.

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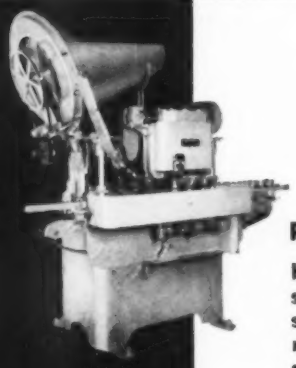

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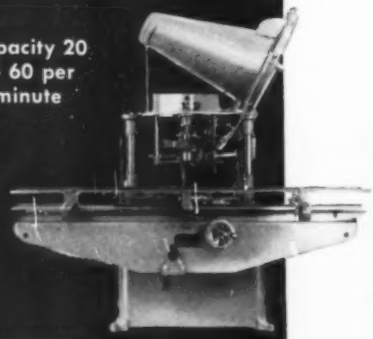
Capacity 20 to 60 per minute



Tops 'em all

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Automatic innerseal machine for selecting and applying standard innerseals to various types and sizes of tin cans as commonly used in the oil industry.

Other models available. Write for descriptive literature.

Agents in principal cities throughout the United States and Canada

RESINA AUTOMATIC MACHINERY CO., INC.
BROOKLYN 31, N. Y.

Bagged carcasses

A new Pliofilm bag for carcass meat is especially designed for beef quarters and primal cuts, pork loins, butts and other similar items. Transparency of the sturdy bag permits complete protection with unobstructed visibility both in the wholesaler's cooler and at point of delivery. It dispenses with

the necessity for tearing opaque coverings to examine the meat, thus saving the packer expense in extra bags to replace torn ones and in trimming the meat where it has been exposed and become soiled or damaged. Since Pliofilm is both shatterproof and tearproof, any puncture that may accidentally occur from a sharp bone or meat hook will be confined to its original area.

The fact that the bag is made of moistureproof Pliofilm does not present a moisture-collection problem because small holes are pre-punched in the bottom of the bag to permit drainage of moisture that may collect. Since the Pliofilm does not absorb moisture, it will retain its strength even when adverse temperature conditions cause the meat to sweat.

Because the bag is air permeable, it permits the meat to "breathe," thus retaining its bloom. Although 3% shrinkage is essential for good merchandising, anything over that amount is said to be definitely harmful to the product. The new bag reduces shrinkage with no signs of slime up to 10 days, it is said, and saves approximately 1.1% of the shrinkage undergone by the average beef quarter in a sales cycle from packer to wholesaler to retailer.

The bags come in eight different sizes for primal cuts of rounds, loins, ribs and chucks, and small, medium and large fore and hind quarters.

CREDITS: *Bags, Milprint, Inc., Milwaukee, Wis., using Goodyear Pliofilm.*

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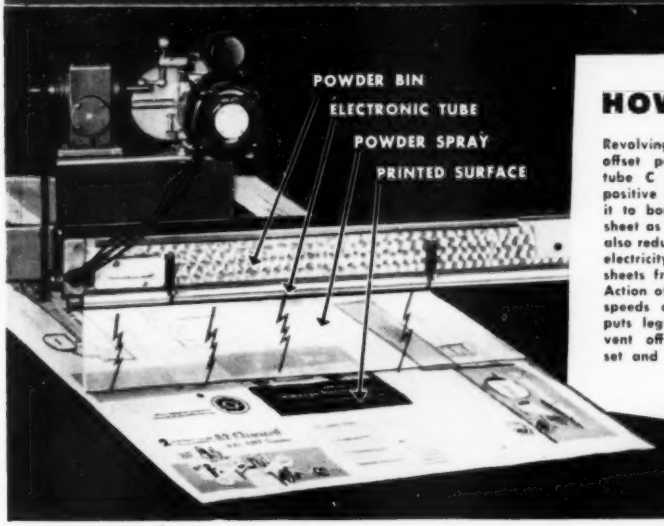
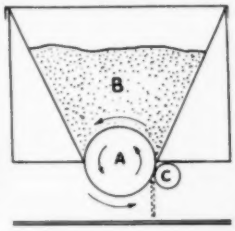


HOW OXY-DRY OPERATES

Revolving shaft A distributes anti-offset powder B past electronic tube C which gives 10,000 volt positive charge to powder causing it to bond instantly across entire sheet as it is delivered. This action also reduces negative charge (static electricity) in paper which frees sheets from sticking and jamming. Action of ozone emitted from tube speeds oxidation of ink, powder puts legs between sheets to prevent offset and permits inks to set and dry thoroughly.



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- **Elimination of static electricity from sheets permits easy flow of work**
- **Fast drying of ink and uniform, full free flowing loads**
- **Time and labor saved from cleaner, more efficient operation**
- **No dust hazard—powder is fully-endorsed health factor**

NEW

OXY-DRY rollers are now furnished with positive powder control etched surface. Eliminates "down-time" for costly labor time sanding, permits operation of sprayer for far longer time without service of any kind except to refill with OXY-DRY powder...one of a parade of improvements you can expect only from OXY-DRY research and development.

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Keeping the "Crunch" in **Dry Cereals**

Dry cereals made from corn or wheat make a tasty, energy-giving breakfast dish. And, an important part of their crisp, crunchy goodness depends on protective packaging paper.

Dry cereals present a tough moisture-control problem. If moisture vapor invades the package, the cereal becomes soggy . . . yet its just-right crispness must be kept nicely balanced to prevent excessive dryness and early rancidity. This touchy control problem is best solved by using an inexpensive glassine inner bag—usually waxed*—that both retains wanted goodness and excludes unwanted moisture.

If you package a product that requires moisture control, then investigate Rhinelander papers. They may offer you an economical solution.

*Waxed grades are available through leading converters.

Glassine and Greaseproof Papers . . .

plain, waxed, wax laminated, or coated, are used for inner and outer product wraps • product bags and enve'opes • insert labels • for laminating to other packaging materials like foil, boxboard and films • packaging accessories, and scores of other applications in the food packaging industry where greaseproof qualities are essential.

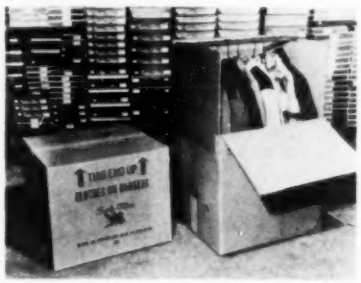
Protective Paper . . . Consistently Good . . . for Economical Packaging

RHINELANDER

Paper Company · Rhinelander, Wisconsin

Garment shipper

A new method for packing outerwear jackets, recently made available to the apparel trade by I. Spiewak & Sons, Inc., New York, is this wardrobe box in which the garments are hung on a rack instead of being



folded. The boxes prevent the garments from becoming wrinkled or creased.

Made of strong corrugated board and printed in red, the box is constructed with an inner lining on which a metal hanger bar is placed at top center. Top and bottom outer sections fit snugly over the inner liner, making the box exceptionally rugged as well as dustproof. The hanger bar is tested to support approximately 125 lbs.

In preparing for shipment, the inner liner and the two outer sections, all of which are stored flat, are opened and set up. The inner liner, with hanger bar fitted into position, is fitted on the bottom section. The garments are then hung on the bar. Measuring 22 by 24 by 38 in. high, the box provides plenty of room so that the garments are not crowded or crushed. Last, the top outer section is slipped over the upper half of the inner lining and the seam between top and bottom sections is tightly closed with tape, then steel strapped. Top of the box is prominently indicated, so that it always travels in an upright position.

CREDIT: *Box, Hinde & Dauch, Sandusky, Ohio.*

Polyethylene—

(This article continued from page 158)

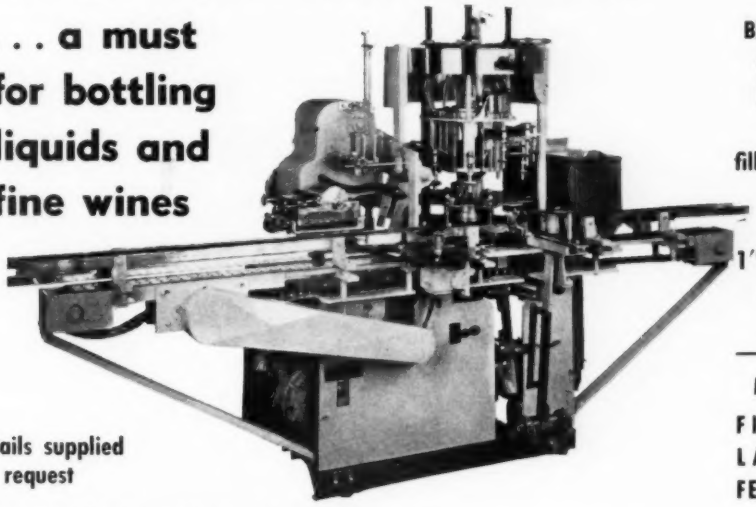
reduction in weight over heavy, returnable containers. The result is a substantial saving in freight costs.

Perhaps the most rapidly growing application of polyethylene film in the food packaging field has been that of fresh fruit and vegetable pre-packaging. Such products are comprised of wet, living material which gives off carbon dioxide and requires oxygen

····BINER-ELLISON·····

now gives you "BOTTOM-FILLING"

. . . a must for bottling liquids and fine wines



Biner-Ellison's new "bottom-filling" units are a must for the bottling of liquids and fine wines to eliminate oxygen pick-up from turbulent filling. Long filling tubes reach to the bottom of the bottle before filling begins. The unit uses 1" to 2" of vacuum at maximum and fills so gently that there is hardly a ripple or bubble during filling.

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Claremont Flock... the plush that sells! Available (18 brilliant colors) from paper suppliers, affixed to sheets and boxboard. Can be printed, stamped, scored, die-cut. Imagination, alone, limits its uses! Write for color chart and data.

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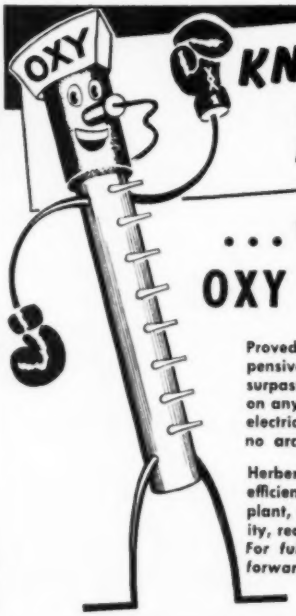

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during its respiratory process. They are generally refrigerated during long hauls from growing area to terminal market.

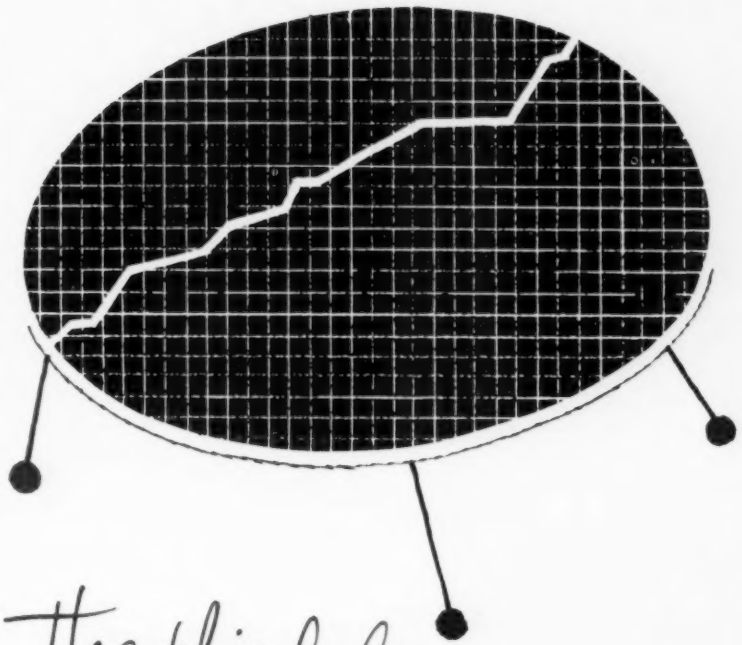
A satisfactory film must be highly durable, often while in contact with chipped ice, and should prevent excessive moisture loss, yet be sufficiently permeable to oxygen and carbon dioxide to maintain a normal atmosphere in the package. Polyethylene meets these requirements quite well at the temperature of ice (32 deg. F.). At higher temperatures such as may be encountered in a grocery store, respiration of the product may require more gas exchange than an otherwise suitable film can provide. In such cases controlled perforation of the film is necessary to maintain product quality as has been shown in studies made by the United States Department of Agriculture.

To be used successfully even when punctured, a film must not start tearing easily at puncture or perforation points or, once started, the film should not continue to tear readily or "run." The high tear strength of good polyethylene even at low temperatures permits perforating without the undesirable "running."

A successful topped-carrot polyethylene package (Fig. 8) has revolutionized the entire carrot industry. The cost of the bag has to a large degree been offset by the savings in freight in comparison with the shipments of carrots with the tops still on.

Other produce crops do not require refrigeration, but since they are marketed in larger, heavier units they require packaging films with an even higher degree of mechanical durability. Examples are 5-lb. apple and orange bags, and 10-lb. potato bags (Figs. 9 and 10).

These successful examples of food-packaging applications are the forerunners of a much wider usage. Large-scale expansion of resin and film production is an immediate prospect. This is a result of extensive and continuing research on resins, films and new uses. Out of this will come modifications and improvements which will lead to ever-expanding production and applications. Among the improvements that may be expected are greater economies of production resulting in lower-cost films, better control of gauge and other film properties, and new developments in machinery and handling equipment for utilizing the films.



the third leg of your sales table...

The sales success of your product rests on a sort of three-legged table:

1. A good, saleable product.
2. Good distribution and advertising support.
3. A good shelf package, with BUY-APPEAL.

You're taking care of the first two points. But the third leg . . .

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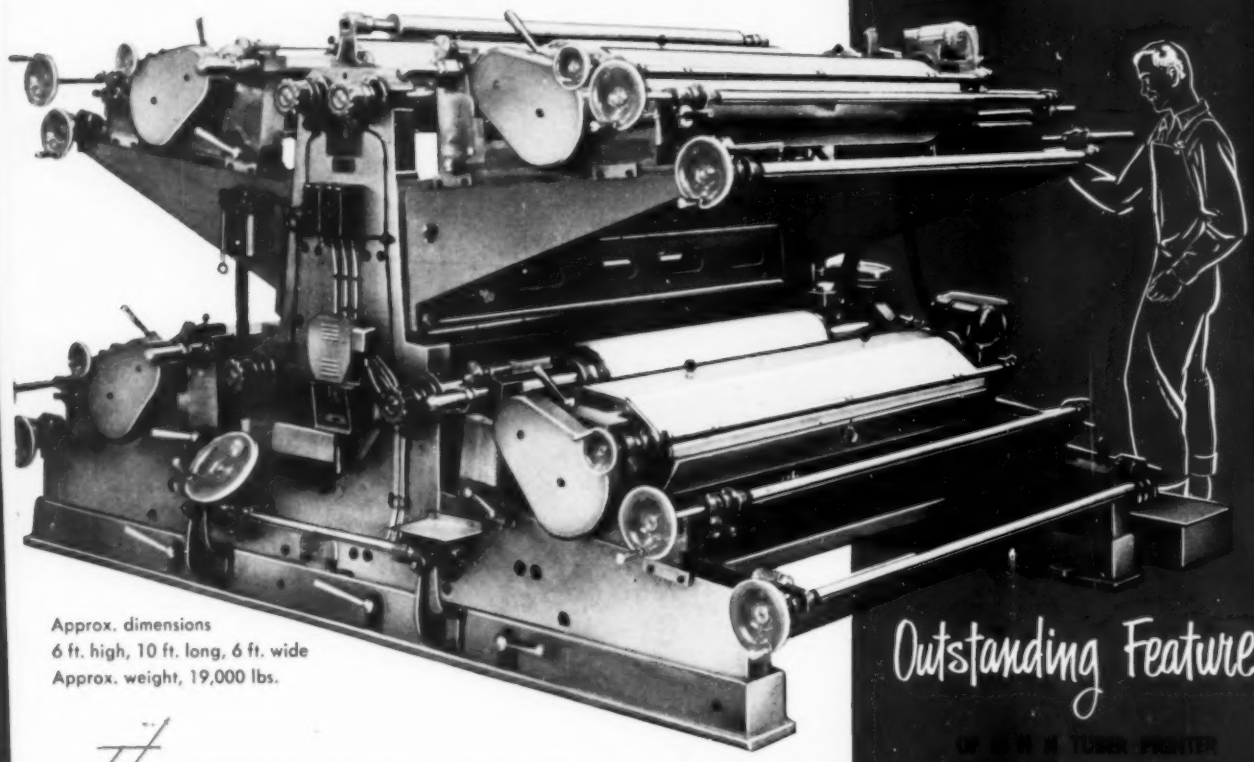

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Approx. weight, 19,000 lbs.

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Its advanced design, its precision workmanship, its basic massiveness, its many built-in features assure superior dependable performance at all times.

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ROLL LEAF MARKING EQUIPMENT. Composite booklet illustrates and describes all equipment in the "Kensol" line of hot stamping presses. Olsenmark Corp. (E-453)

PYROXYLIN-COATED PAPERS. Folder contains seventeen sample sheets of Artcote pyroxylin pastel packaging papers and boards. Weights include 60 pound, gummed and ungummed, and 7, 10, and 15 point. Artcote Papers, Inc. (E-454)

VACUUM FORMING MACHINE. Specification bulletin on the "VacForm" machine for vacuum forming complete packages from plastic sheets up to 52" x 24". Vacuum Forming Corp. (E-455)

EXPORT PACKING SERVICE. Data on the facilities and type of work done by this company for the armed services, electronics manufacturers, government contractors, common carriers, and others who need climate-proof packaging. Cargo Packers, Inc. (E-456)

COLLAPSIBLE TUBES. Booklet tells what to look for in the manufacture of metal collapsible tubes. Chart lists standard sizes and capacities, tube closures, and applicators. The Sheffield Tube Corp. (E-457)

FLOCK. Booklet discusses the manufacture of flock made of fiber materials, application methods used, and suitable adhesives. Lists application equipment made by various manufacturers. Claremont Waste Mfg. Co. (E-458)

DECORATIVE CUSHIONING. Folder contains samples of six different "Sweetone" pads, dividers, and liners for use in protecting candies, cookies and other food products from breakage. George H. Sweetnam, Inc. (E-459)

AUTOMATIC ELECTRIC CIRCULATION HEATERS. An explanation of how "Chromalox" electric circulation heaters automatically control the heating of water, oils, steam and heat transfer media. Application photos illustrate the units in use. Edwin L. Wiegand Co. (E-460)

RONDO PROTECTIVE PACKAGING. Brochure describes and illustrates a unique type of air-suspended protective packaging particularly well adapted to fragile cylindrical products of all sizes. American Rondo Corp. (E-461)

"CORRUGATIONS." House organ outlines procedure one manufacturer followed to solve his packaging problem by the use of corrugated cartons. Interesting information on the manufacture of paperboard also included. Stone Container Corp. (E-462)

WRAPPING MACHINES. Folder contains bulletins on Hayssen automatic wrappers for candy, food products, white goods, and other items which may be wrapped in paper and film. Hayssen Mfg. Co. (E-463)

PACKAGING "DEALS." Folder shows how "Scotch" brand tapes and dispensers can be used to combine several packages, and other items to make merchandising premium "deals." Minnesota Mining and Manufacturing Co. (E-464)

FOLDING MACHINE. Brochure illustrates and describes the operation of a machine which folds sheets into either parallel or right angle sections, featuring a continuous feeder that handles all varieties of stock suitable for folding. Dexter Folding Co. (E-465)

STEEL STRAPPING. Data on the Stanley steel strapping and tools for applying it in packing and shipping applications. The Stanley Works. (E-466)

"PLASTICS PACKAGER." Second edition of Monsanto's bulletin for packagers contains information on styrene containers and dishware, and packages fabricated of one piece of "Vuepack" rigid acetate film. Monsanto Chemical Co. (E-467)

HEAT SEALING TURN TABLE AND INDEXER. Bulletin on two "Thermatron" units for converting many manual heat sealing operations into fully automatic heat sealing operations. Thermatron Div., Radio Receptor Co., Inc. (E-468)

FOAMED-IN-PLACE PLASTICS. Booklet covers the advantages of using Nopco "Lockfoam" foamed-in-place plastics for packaging fragile items and for vibration dampening. Charts depict insulating, adhesive and compression resistant properties. Nopco Chemical Company. (E-469)

PALLET DOLLIES. Booklet describes several varieties of pallet dollies for facilitating the handling, loading and unloading of palleted merchandise. Samuel Olson Mfg. Co., Inc. (E-470)

SAWS FOR DIE CUTTING DIES. Specifications and information on various precision die saws for use in the manufacture of die cutting dies. J. A. Richards Co. (E-471)

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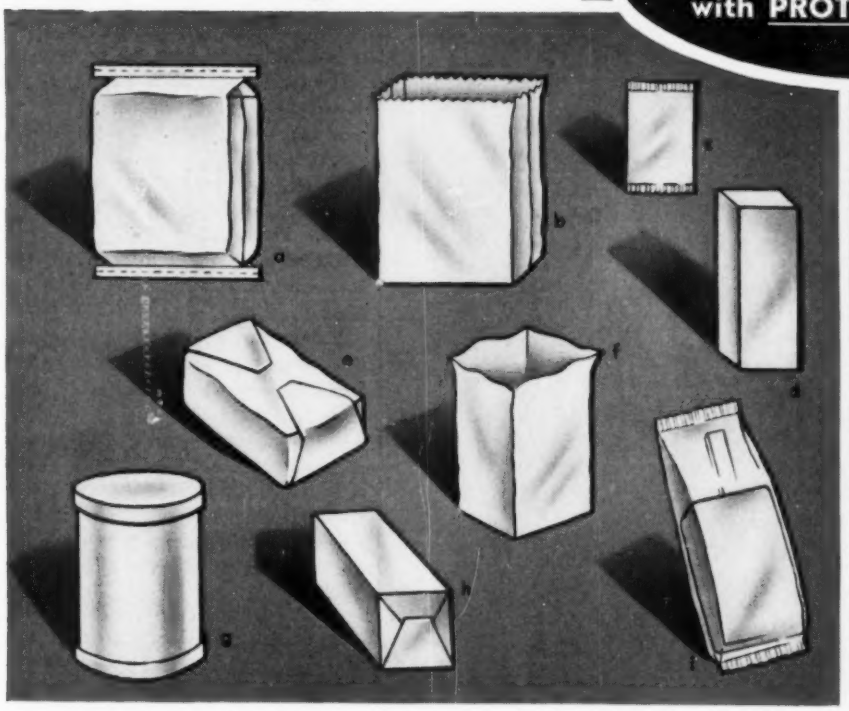

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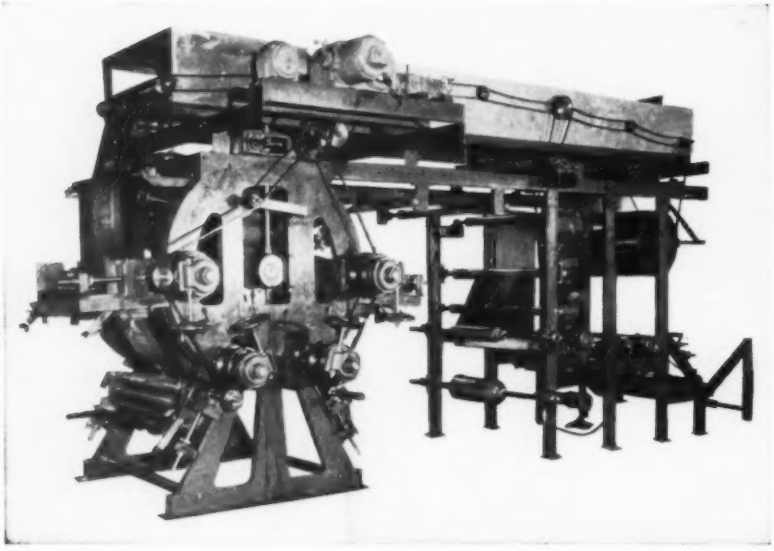

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Manufacturers of Printing Presses and Cylinders

Pre-packaged produce

(This article continued from page 127)

If the retailer packages the item in a U-board or box overwrapped with film, he may make all folds and seals by hand, or the film can be placed around the box by hand and the seals made by semi-automatic machines. If cost allows, an automatic machine which cuts the film, wraps and seals the package may be used.

If the retailer chooses to package the item in sheet materials, he may wrap by hand or he may wrap automatically with the machine cutting the sheet, wrapping the produce and sealing the package. Such a machine is available for packaging head lettuce.

The chart classifies bag closures which have made considerable progress in recent years. A few of the more popular types are: the covered wire tie, the wire staple, pressure-sensitive tape and even the rubber band. Heat-sealing and pressure-sensitive tapes are two of the most common methods currently used for sheet closures.

Labels for both bags and sheets are available in several different forms. However, insert, face and saddle labels, printed tape, printed bags and sheets appear to be among those most generally used. Master containers of several types have become increasingly popular. The large window carton, the open-top reinforced carton and the standard ventilated produce carton represent the most widely used types.

A boon to the small retailer who obviously could not manage the expense of multicolor bags is the stock bag now available from a number of converters. One supplier, for instance, has a line of polyethylene bags in different sizes in attractive, eye-catching designs. Usually printed in one or two colors. the bags carry a brand name, an interesting illustration (often a farm scene) and a spot for price and net weight. A unique bag which is also available comes unprinted with the exception of a price-mark area which speeds marking with ordinary lead pencils, grease pencils or stamp pads. Another supplier has a line of printed sheets for overwrapping trays of tomatoes.[6] Of course, a wide variety of unprinted stock bags and cut-to-size sheets can still be purchased by retailers. Suppliers have

[6] See "Stock Printed Cellophane Tomato Overwraps," MODERN PACKAGING, April, 1953, p. 215.

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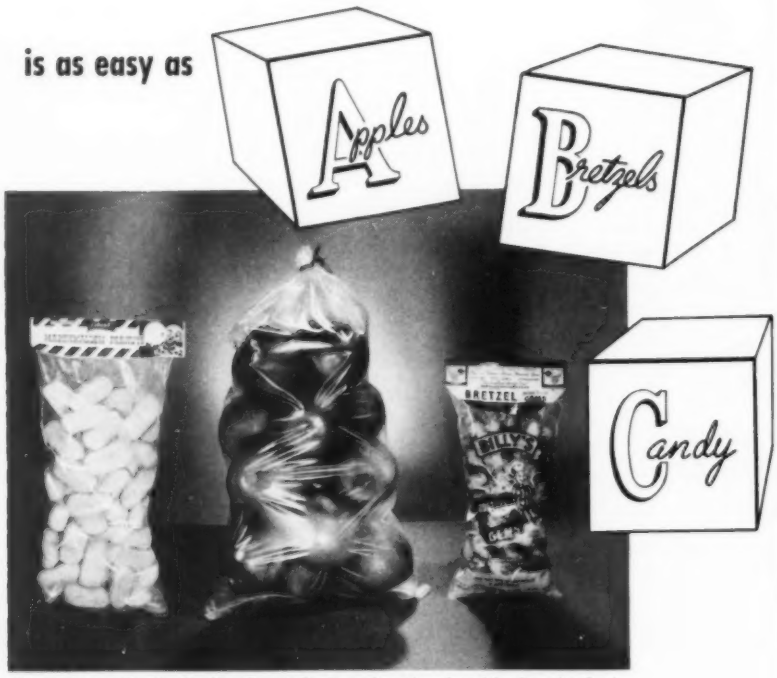

From left to right: Marshmallow Peanut Candy made and packaged by Spangler Candy Company, Bryan, Ohio; Apples by the Berks-Lehigh Co-op of Fleetwood, Pa. and Bretzel Gems by Billy's Bretzel Bakery in Reading, Pa., both packaged by Boyertown Bag Company of Boyertown, Pa.

Hundreds of satisfied customers continue to specify H & R polyethylene tubing to simplify their packaging problems. That's because H & R Industries specializes in extrusions of a wide variety of plastic materials that suit their individual needs, such as fresh fruit, baked goods and candy.

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Proper Applications . . . Product Improvement

it down pat and can recommend the right size and gauge for each type of produce in various weights.

Display pointers

The new, revolutionary back-fill cases which, as the name implies, are loaded from the back instead of the front, are aiding the W. W. Wilt Supermarket in Elkhart, Ind., in its attempt to pre-package produce at the lowest possible cost and move it smoothly into display cases.

Anyone who has been in a supermarket on a shopping night or perhaps a Saturday has seen the clutter caused by moving produce through the aisles and the struggle to arrange displays while customers attempt to make their selections. At the Wilt Supermarket all these problems have been eliminated. Produce is packaged in an area located behind the cases so that it can very easily be displayed by trained attendants without disrupting store traffic. Through large windows, customers can see how the packaging is done, a feature which helps sell the advantages of clean, fresh-packaged fruit and vegetable products.

Assuming that the retailer is now receiving part of his volume from other levels already packaged, he can often, as already pointed out, bear down on selling techniques. Before self service was known, the produce man took great pains to arrange produce in orderly rows, alternating the colors of the various fruits and vegetables to make them more appealing to the shopper. Today the same strategy is followed except that streamlined refrigerated and dry cases add to the attractiveness of the displays and, in the case of the former, offer better protection for the merchandise.

American Stores, Grand Union and others make it a practice to display loose produce in conjunction with its pre-packaged counterpart as a way of increasing sales.

Tests made by the United States Department of Agriculture indicate that the technique works. A test in which seedless grapes were displayed this way resulted in a 17% increase in sales, according to the Agriculture Department.

Star Market in Wellesley, Mass., maintains flexibility in its displays with a number of movable bins which can be set up in any part of the produce department for special pro-

motions. Using the bins for mass display of apples or tangerines in trays overwrapped with cellophane goes a long way toward spurring extra sales, according to the store management.

All these extra merchandising aids, retailers say, pay off in terms of gross profit return. A study made by a film supplier, comparing 5,000 shoppers in five service produce departments with an equal number of five self-service departments, showed that the average shopper spent 24% less time in the self-service departments, but bought 16% more.[7] This means that the customer spends more time shopping; wastes less time waiting.

What's ahead?

A veteran produce man in a large chain-store organization predicts that 90% of all produce will be prepackaged within five years, some being done at a central point and the remainder at the store. In the meantime, the industry is studying several problems. Needed, for one thing, are small-unit packages that will satisfy the demands of consumers and still be sufficiently profitable for the retailer to handle. Production of prepackaged items, as in the meat department, must also be paced with sales to maintain the highest quality and freshness. Packaging improvements most wanted are those that, consistent with protecting and selling the product, will lower costs.

In the selling era ahead, the produce department, it is expected, will operate with the same ease as self-service meats or, as some predict, even self-service groceries.

[7] See "Pre-Packaging—An Approach to Produce Profits," available from Du Pont.

Fibre cans—

(*This article continued from page 162*) tests are considered to provide an answer to the actual amount of protection afforded by the spirally wound metal-end fibre can. The results of this exposure are tabulated in Table V. (See page 162.)

Groups N, O and P—The fibre cans of these three groups were subjected to the cyclic exposure test, without the rough handling in the large drum, to determine if the type of metal used in the metal ends had any effect on the amount of corrosion present. The results indicated corrosion has formed on all types of metal ends and there

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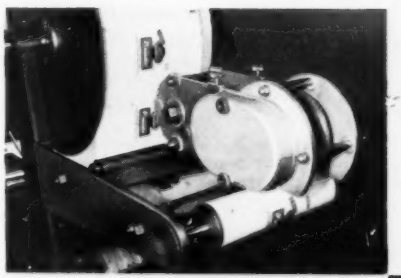

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An efficient, low-cost Gottscho imprinter for attachment to case-sealer, conveyor or other packaging machine. Automatically marks code-dates, lot numbers, brands, varieties, other supplementary information on cartons, cases or boxes. Friction-operated, self-inking — produces consistently neat, clean marks. Copy changes made in minutes. *Pays for itself in weeks.*

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was no significant correlation between the degree of corrosion and the type of metal end.

Conclusions

The information obtained from the series of tests which used a "silver sandwich" material as the water-vapor barrier in the construction of spirally wound metal-end cans indicated:

1. That this type of fibre can is not considered adequate for Method II application because of its low resistance to the transmission of water vapor as evidenced by the water-vapor transmission tests and the cyclic exposure tests.

2. That this type of fibre can is considered adequate for Method IC application (formerly Method IA) providing the packaged items are preserved with a suitable corrosion preservative compound and are securely positioned within the can. The second test, using the modified construction, was entirely satisfactory and will be reported in the second of this series of articles.

3. That there was no significant difference in the performance of the fibre cans because of the different types of metal used in the closures.

As soon as the conclusions obtained in the aforementioned series of tests were made known to representatives of the fibre tube and can industry, several member manufacturers of fibre cans requested that another series of similar tests be performed on other constructions of fibre cans which they felt could be used successfully for Method II application.

It was their belief that the failure of the first group of fibre cans to meet the requirements of a Method II pack was due to the "silver sandwich" type of barrier used in these cans not being an adequate barrier against the transmission of water vapor. They suggested that this barrier be replaced with a "free aluminum foil" type which would provide a better seal against the entrance of water vapor. Laboratory personnel suggested that the relative position of this barrier in the wall of the fibre cans might also have an effect on the water-vapor transmission rate. As a result of these suggestions, an additional series of tests using several different constructions of spirally wound fibre cans with metal ends were made.

The second, concluding article in this series will appear in the June, 1954, issue of Modern Packaging.

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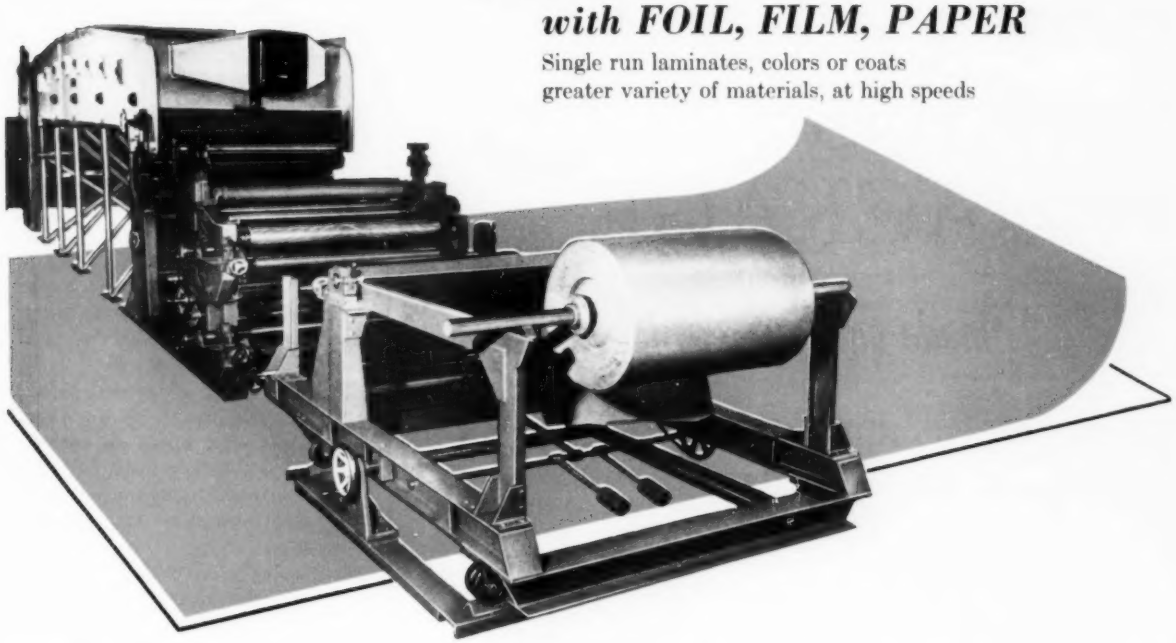

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More good news for foil, film, paper, and board converters! New GM-1000 laminates, colors, coats greater variety of materials. Diversifies output of small converter; eliminates machinery or multiple passes for large converter. Complete including dryer; requires no attachments or additional purchases.

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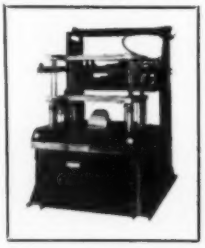

Machinery booming

Manufacturers of packaging machinery will do a record business in 1954 and 1955, Robert T. Foreman, director of sales of R. A. Jones & Co. and president of the Packaging Machinery Mfrs. Institute, predicted at the recent Packaging Exposition in Atlantic City.

Mr. Foreman reports that many PMMI members, instead of talking of a recession, are operating at higher levels than in any postwar year; that order backlogs also are at a new high. Packaging-machinery orders and backlog are up 14%, according to Mr. Foreman, and shipments probably will be 11% higher this year than in the period 1950-53. The resulting carry-over into 1955 should insure good business for that year as well.

Pressure filling of aerosol-packed products, made possible by new fillers offered this year, opens an entirely new field for manufacturers of such products as insect sprays, paints, hair lotions and deodorants, Mr. Foreman points out.

Pre-packaging of vegetables, meats and other perishables will replace bulk dispensing just as surely as pre-packaged soda crackers displaced the cracker barrel, he asserts. Mr. Foreman forecasts that packaging of individual servings of coffee cream, catsup and mustard soon will become economical and that thermoplastic materials will be used to protect all sorts of products in the tropics from unfavorable humidity, fungus growth and insect infestation.

The Packaging Machinery Mfrs. Institute had a booth at the Packaging Show for the first time this year.

Trends in fibre boxes

(*This article continued from page 137*)

Wurzburg Co., of that city.

High-Density Products Class: Container for chain, manufactured by Inland Container Corp., Indianapolis, for Diamond Chain Co., Inc., of that city.

Small Appliances Class: Container for a garbage-disposal unit, manufactured by Inland Container Corp., Indianapolis, for General Electric Co., Louisville, Ky.

Large Appliances Class: Container for an electric refrigerator, manufactured by Menasha Wooded Ware Corp., Menasha Wis., for the Crosley

Div., Avco Mfg. Corp., Metuchen, N. J.

Furniture and Home Furnishings Class: Container for upholstered and overstuffed furniture, manufactured by Kieckhefer Container Co.-The Eddy Paper Corp., Chicago, for Volckman Furniture Co., Morrison, Ill.

Floor Stands and Displays Class: Floor display for rubber kitchen products, manufactured by The Ohio Boxboard Co., Rittman, Ohio, for Wooster Rubber Co., Wooster, Ohio.

Miscellaneous Products Class: Container for 10 h.p. outboard motor, manufactured by Iowa Box Co., Keokuk, Iowa, for Johnson Motors, Waukegan, Ill.

Military Developments Class: Tenman shelter, manufactured by Gaylord Container Corp., St. Louis, Mo., for the Office of the Quartermaster General, Research and Development Div., U. S. Army.

Inner Packing and Inner Container Class: Inner Packing for condensers, manufactured by Stone Container Corp., Chicago, for All Star Products, Inc., Defiance, Ohio.

Distinctive Features Class: Tear-strip opening carton, manufactured by Kieckhefer Container Co.-The Eddy Paper Corp., Chicago.

Carry-Home Packs Class: Carry-home pack for beer, manufactured by the Mengel Co., Louisville, Ky., for Haberle Congress Brewing Co., Syracuse, N. Y.

Palletized Products, Unitized Loads and Bulk Packs Class: Container for cathode-ray television tubes, manufactured by Hankins Container Co., Cleveland, for Sylvania Electric Products, Seneca Falls, N. Y.

Surface Design and Printing Class: Floor stand for soap, manufactured by Gibraltar Corrugated Paper Co., North Bergen, N. J., for Colgate-Palmolive Co., Jersey City, N. J.

Articles Made from Corrugated or Solid Fibreboard: Soiled-diaper hamper, manufactured by Robert Gair Co., Inc., for General Diaper Service Corp., Elmhurst, N. Y.

The complete list of prize winners, including secondary prize and honorable-mention winners, may be obtained from the Fibre Box Assn.'s headquarters at 224 S. Michigan Ave., Chicago.

CORRECTION: Name of the designer of Swanson's TV Dinner label, listed incorrectly on p. 325 of our March issue, is Gene Ross, 148 E. 48 St., New York.

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(Continued on page 248)

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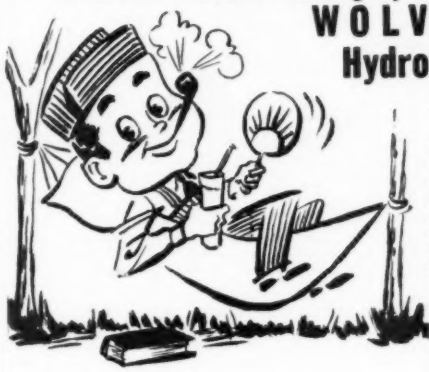

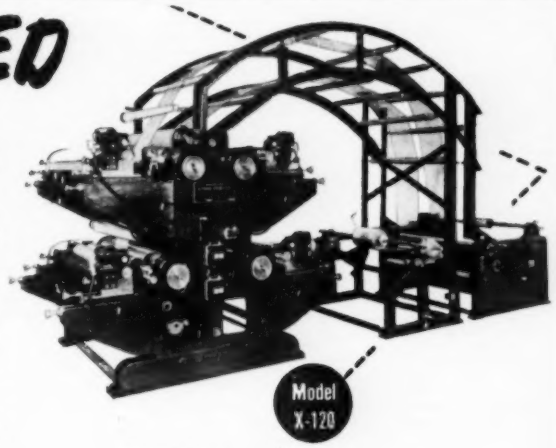

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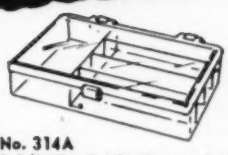

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(Continued from page 246)

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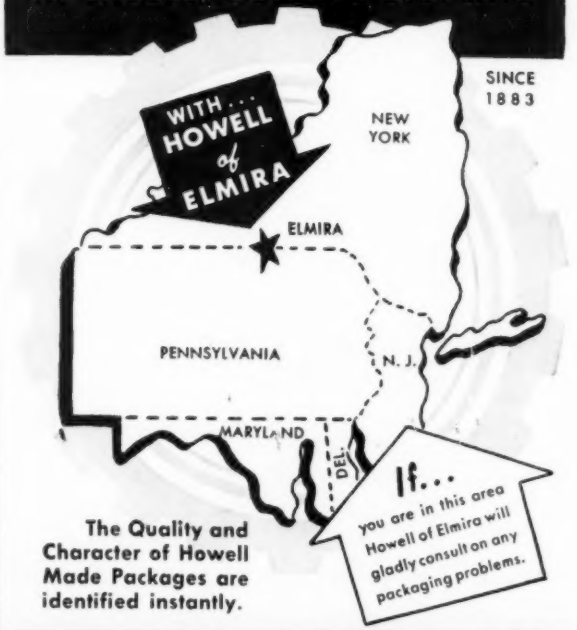

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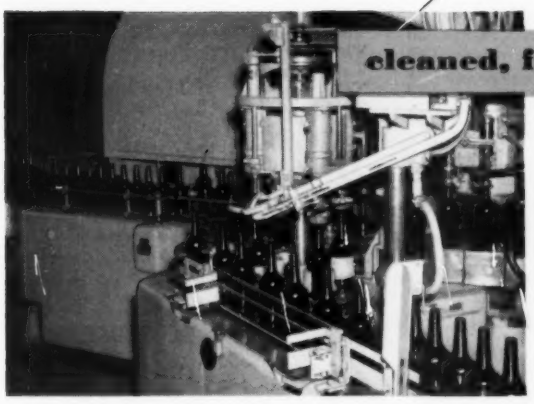

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Packaging and Bottling Equipment

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paper canisters **scour the market!**

Sears fast-selling Maid of Honor rug and upholstery cleaner finds its perfect dispenser in a Harcord paper canister. Lid and sift openings *both* were incorporated to facilitate the actual dispensing of the powder for the housewife.

Cleansers for everything including the kitchen sink . . . all find paper canisters the inexpensive and protective packaging answer. Yet, each and every one differs in its particular package requirements. It is here where Harcord's "small family" organization figures so importantly. For it permits personalized handling of every packaging problem . . . greater production flexibility . . . greater customer satisfaction.

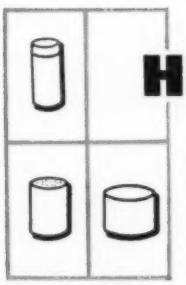
The new "copper-look" label on Copper Clad Cleaner is the perfect salesman for this quality miracle cleanser. And the carefully engineered paper canister behind it is a vote of confidence for Harcord's five year service record with Copper Clad.

Promotion with a successful past and promising future is Permatex Cooling System Cleanser and Radiator Rust Preventor. A functional partitioned canister produced by Harcord has helped make this "twin" merchandising package a top seller.

You Sell It Better . . .

because You Say It Best with

PAPER CANISTERS by



HARCORD

HARCORD MANUFACTURING CO., INC.
125 Monitor St., Dept. MP-5, Jersey City, N. J.
New York Telephone BArclay 7-5685

ANOTHER WIRZ DEVELOPMENT

NEW Ready-Peel* DECORATION

LOWER COSTS . . . . . QUICKER HANDLING

Diothane Ointment is one of many ethical products manufactured by The Wm. S. Merrell Company, Cincinnati, Ohio, and sold subject to individual prescription. Merrell has found that the effective use of collapsible tubes in packaging these products depends on 1—ease of identification, and 2—the ease with which the original label can be stripped to make room for the druggist's prescription label.

Adding to a long list of Wirz developments in the field of packaging is the new Ready-Peel Lithography. With it, you attain a new high in tasteful brand identification. Most importantly, Ready-Peel can be stripped instantaneously leaving a gleaming metal tube ready for prescription labelling when needed.

A Wirz representative can show you today why this new, colorful lithography means less cost . . . more profits.

*TRADE MARK

ESTABLISHED 1836
A. H. WIRZ Inc.
4th & Cole Sts.
Chester, Pa.

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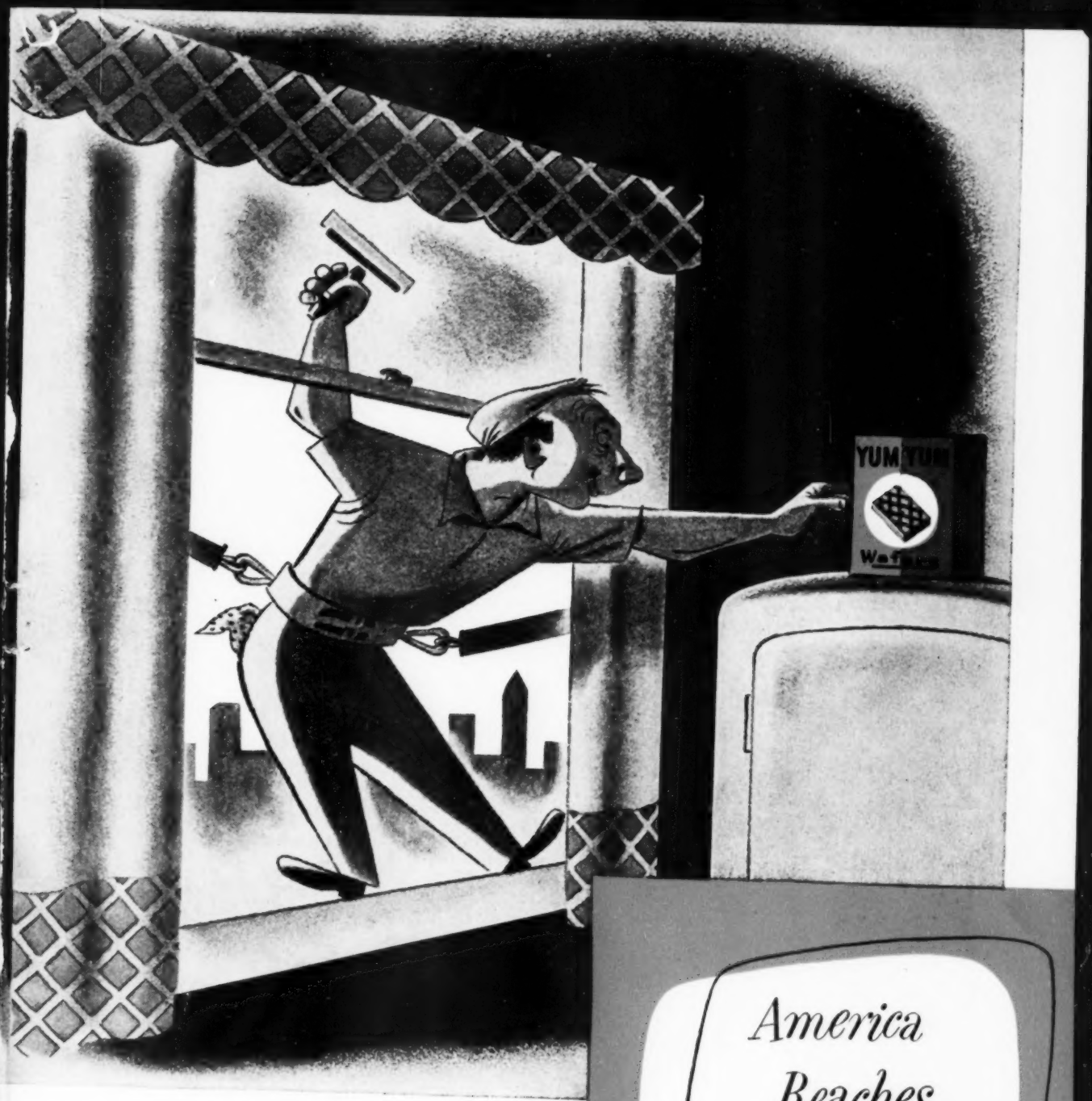
Export Division -- 751 Drexel Bldg., Philadelphia 6, Pa.

Collapsible Metal Tubes • Lacquer Linings • Wax Linings • Westite Closures • Soft Metal Tubing • Household Can Spouts • Applicator Pipes • Compression-Injection Molding



America Reaches for **Michigan** *Cartons*

MICHIGAN CARTON CO.
BATTLE CREEK, MICHIGAN

Package Makers to the Nation

Mastery of
PACKAGE PRINTING

At Shellmar-Betner, no step in package printing is left to chance. We ourselves manufacture every printing cylinder we use. We record, electronically, the wave length, brightness and purity of each color we print. We maintain a stroboscopic accuracy check throughout each printing run. The results: true color, precise registry, and crisp, clean package printing. This care works for you — as it works for hundreds of other package buyers — whenever you call on Shellmar-Betner.

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